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ABSTRACT

A study by the Northern Territories Department of Community Development systematically and specifically identified information needs and categories of clients through a set of intellectual concepts in the fields of sport, recreation, and leisure. A survey of Australia's serials holdings was conducted to assess the country's existing information resources to meet these needs, and 21 Australian and foreign databases were evaluated to determine the relevancy of materials on eight selected topics of importance to Australia. One or more academics were associated with each topic to prepare bibliographies for comparison with the search results of these surveys and evaluations. The results led to a proposal for a national information service called INFO RELEASE (Information Network for Recreation, Leisure and Sport) to take advantage of recent developments in information technology. The guidelines for the development of a proposed database, a thesaurus for effective retrieval, and the functions, costs, and administrative structure for INFO RELEASE are discussed in detail. Appendices include information on the leisure studies information bank, questions about an Archive and Museum of Games, and an explanation of Bradford-Zipf distribution. Twenty-two references and a glossary of terms are provided. (RAA)

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INFO RELEASE

National Information Network
for
Recreation, Leisure and Sport

by

VIDYA S. SHARMA

Department of Community Development

DARWIN

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PREFACE

The Standing Committee On Recreation (SCOR), met in late June 1980 in Darwin, amongst other things to discuss the possibility of a national information network in sport, recreation and leisure. As the discussion progressed on this topic, the SCOR realised that these needs were very diverse and that a great deal of research was necessary before any decision could be made.

In response to SCOR's resolution at the last RMC (Recreation Ministers' Council), which was also held in Darwin in June 1980, the NT Minister for Youth, Sport and Recreation, Mr N. Dondas, promised that his department (Department of Community Development) would underake a research project to study this area to enable SCOR in arriving at an informed decision. The present report is a response to that undertaking.

This report comprises five chapters. The first chapter is a statement of Australia's information needs in the field of sport, recreation and leisure. In this chapter the diverse nature and extent of these needs have been identified.

The second chapter contains a discussion of a survey of existing resources in Australia. The third chapter deals with the evaluation of 21 foreign and Australian data bases for their coverage of material on sport, recreation and leisure. These data bases in this field, were specially evaluated for their coverage of Australian material.

The fourth chapter is an evaluation of a proposal called, AUSIRC (Australian Sport Information Resource Centre), which has been before SCOR for its consideration towards funding.

The fifth and the last chapter is an attempt to develop a proposal which will efficiently within a reasonable budget and in a cost-effective way, meet Australia's information needs.

The fifth chapter is followed by recommendations, which must be implemented if Australia's information needs have to be adequately met.

The Recommendations are followed by Appendices. The Appendices A, B and C discuss some concepts which needed to be discussed in detail than their discussion in the text would have allowed without obstructing the natural development of ideas in the report.

The Appendices are followed by "Footnotes and References". These are followed by a glossary of terms.

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SUMMARY

This is the only study of its kind which systematically and specifically attempts to identify the information needs of Australia in the field of sport, recreation and leisure. A list of intellectual concepts has been prepared which define this discipline with regard to Australia's information needs. The categories of clients of this information have also been identified.

In the light of these needs a survey of Australia's existing resources was conducted. However, this survey was confined to serial holdings only. Australian libraries' holdings of both English and non-English language periodicals were found to be poor and dissatisfactory except for scientific aspects of sports (e.g. sports, medicine, biomechanics of sports etc.).

21 Australian and foreign data bases have been evaluated from the viewpoint of meeting these needs with special reference to their coverage of material published in or relevant to Australia.

These are enlisted below:

Foreign

- (1) Biosis Previews
- (2) Comprehensive Dissertation Abstracts
- (3) Enviroline
- (4) ERIC (Educational Resources Information Centre)
- (5) Excerpta Medica
- (6) Medline
- (7) National Technical Information Service
- (8) Rural Recreation and Tourism Abstracts (this data base is a part of a bigger data base called Commonwealth Agricultural Bureau Abstracts)
- (9) SIRC data base
- (10) SIRLS (Information Retrieval system for the Sociology of Leisure and Sport. It is produced by University of Waterloo, Ontario, Canada)
- (11) Social Sciences Citation Index
- (12) Sportdokumentation: Literatur der sportwissenschaft. (It is produced by Bundesinstitut fuer sportwissenschaft, Koeln, West Germany).
- (13) Sports Documentation Monthly Bulletin (U.K.)

Australian

- (14) Australian Bibliography of Urban Studies
- (15) Australian Education Index
- (16) Australian Government Publications
- (17) Australian National Bibliography
- (18) Australian Public Affairs Information Service
- (19) Australian Science Index
- (20) Australian Scientific and Technical Reports
- (21) Community Affairs Bulletin

To reflect the entire range of Australia's information needs, eight topics were chosen for evaluation of these data bases. With each topic one or more academics were associated who prepared their own bibliographies for comparison with the search results of these data bases.

The literature published in the field of sport, recreation and leisure was found to be scattered over so many data bases that none of the data bases (or all of the data bases collectively) was/were found to cover the field adequately. There is so little bibliographic control in this area that neither the academics nor the data base producers seem to know what (and how much) is being published in this field.

For quite some time a proposal called AUSIRC (Australian Sport Information Resource Centre), put forward by Footscray Institute of Technology, Victoria, has been before RMC (Recreation Ministers' Council) for its consideration towards funding. This proposal was carefully examined and was found to be inadequate to meet Australia's information needs.

The author has developed a proposal for a national information service called INFO RELEASE (Information Network for Recreation, Leisure and Sport) which takes full advantages of recent developments in information technology taking place in Australia and abroad. It is claimed that the proposal is not only attractive from the viewpoint of cost-benefit and cost-effectiveness analyses, but would meet the diverse information needs of all segments of the Australian community satisfactorily and efficiently. Various possible locations for INFO RELEASE have also been discussed. The proposal has also been costed out.

RECOMMENDATIONS

The following recommendations emerge from this study as a whole (many of these recommendations appear at the end of various chapters too):

1. PREPARATION OF A DIRECTORY OF RELEVANT JOURNALS

At present the information about serials published in and relevant to the field of sport, recreation and leisure is scattered over many such bibliographic publications as Ulrich's International Directory of Periodicals. As far as could be ascertained these directories do not give comprehensive, complete and up to date information about these serials. Further, because of the inter-disciplinary nature of this subject (recreation, leisure and sport) whatever information may be available in a bibliographic tool is dispersed under numerous and seemingly unrelated subject headings. Therefore, it is important that a careful attempt is made by going through various relevant sections of Ulrich; other similar bibliographic tools (both national and international in scope), and the lists of journals indexed in the data bases chosen for evaluation here to compile a list of journals in the field of recreation, leisure and sport, and make it available in one volume. This list can then also be used as a basis towards developing serial collections in Australia.

2. ANOTHER SURVEY OF SERIAL PUBLICATIONS:

After the list of relevant journals has been prepared another survey must be conducted to evaluate Australia's existing resources. This survey must also include major public libraries.

3. SURVEY OF MONOGRAPHS, REPORTS ETC.

Besides a survey of serial publications an attempt must be made to evaluate Australian resources in monographs, reports (including unpublished ones too) and non-print material available in this area.

4. NEEDS OF IMMIGRANTS:

When (1) - (3) are implemented, the needs of Australia's ethnic communities must be kept in mind. Traditionally, whenever similar attempts have been made, the development of collections and serial holdings have been confined to literature published in the English language. This imbalance must be corrected.

5. ESTABLISHMENT OF INFO RELEASE:

Immediate steps need to be taken at a national level in all aspects of collection, organisation, storage, retrieval and dissemination of information in the field of sport, recreation and leisure. The only way to meet these needs satisfactorily within a realistic budget is to establish the proposed information service called INFO RELEASE. INFO RELEASE must be established as soon as possible within the guidelines enumerated in this report.

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1.

IDENTIFICATION OF NEEDS

1.1 INFORMATION NEEDS

1.2 NEEDS FOR SERVICES

1.3 DIVERSITY OF NEEDS

1.

IDENTIFICATION OF NEEDS

1.1

INFORMATION NEEDS

As an essential part of the process of identification of Australia's information needs extensive discussions have been held with departments constituting the SCOR, and with many academics who are actively engaged in research in the field of sport, recreation and leisure.

Out of these discussions a number of points strongly emerge. These are:

- (A) The information needs of the ordinary members of the Australian community, various sports or community organisations (these include various Commonwealth and state government departments, statutory bodies, sport, community or voluntary organisations etc. that are involved in this field), academics who are actively engaged in research in this area or people who write for newspapers and general magazines in this field, are very diverse.
- (B) On many occasions most people or organisations have had difficulty in finding an article or statistics etc. which would have satisfied their needs at that time.

The point (B) is also supported by at least two studies carried out previously: namely Bloomfield's report ¹ on the role, scope and development of recreation in Australia and the report of the study group on the Australian Sports Institute.²

The needs of various clientele groups identified in (A) will further increase because of a number of reasons: the chief among them being a member of programs (e.g. coaching accreditation scheme) which have been initiated by the Recreation Ministers' Council.

1.2

NEED FOR SERVICES

At present there exists no system, mechanism, network, centre or service which offers or specially attempts to meet these needs. Nor does there exist any information service or network which could meet these needs after modifications. Clearly what is needed is an

information system, service or network (whatever one may prefer to call it) which must perform at least the following tasks:

- (A) It must specially concentrate on collecting all the diverse information in the field of sport, recreation and leisure that will meet the needs of the Australian people.
- (B) It must be able to promptly disseminate all this information.
- (C) Its policies must be imaginative so that it can not only gauge the changing nature of information needs in its area but in time must be able to adapt itself to these shifting boundaries of the system.
- (D) It must constantly be reaching out to various categories of its users (clienteles) in a way so those to whom it can be useful would know of its existence and functions.
- (E) It must be able to accept such information from anyone who will improve its services.
- (F) It should be able to fulfil its functions and provide its services efficiently and with minimum delay. Because the situation is not satisfactory if it does not promptly collect all the information or data which it must or it provides a certain service to its clients but it does not do so efficiently.
- (G) It must be cost effective: this system, service, network or centre must be able to perform all these tasks within a reasonable budget.
- (H) Further it should develop its role and perform its functions in close contact or consultation with its users so that it does not develop its own out-of-touch perception of its users' information needs.

1.3

D I V E R S I T Y O F N E E D S

Australia's information needs are very diverse for a number of reasons. First, the sport, recreation and leisure field covers or can cover such a wide range of human activities or needs that it has not been possible to put forward one definition for any or all of these concepts (e.g. what is sport? what is recreation? etc.) Consequently, in Australia, we have various government departments etc. that lend varying degrees of emphasis to various aspects of sport, recreation and leisure. Some departments, organisations or people are interested only in sports, games, physical education or coaching. Others have coupled these with tourism. More and more government departments are becoming interested in sociological (and even environmental) aspects of these activities e.g. they are

interested in recreation as it relates to urban planning, land economics, management of parks etc. Yet others would like to include community arts (painting, pottery, art galleries etc.) as well in their concept of recreation or leisure. Many organisations or people are also interested in psychology of sports, sportsperson or recreation. The departments or organisations that have welfare orientation may be more interested than others in such areas as sport and recreation for aged or handicapped persons, recreation in institutions of various kinds (e.g. prisons) or therapeutic recreation.

A discussion of the nature of diversity of Australia's information needs has been undertaken in greater detail in Chapter 5 of this report where the scope of the proposed information service has been discussed. This decision was taken to avoid duplication of material. The readers are therefore advised to also refer to that section now.

However, it would be worthwhile to emphasise that all these needs are genuine, well proven and relevant; and that the varying degrees of emphasis which organisations or individuals place on various aspects of recreation are fully justifiable. This diversity occurs not because of any confusion or lack of co-ordination but because the field covers and embraces so many aspects of our lives. Each of them is no less complex than the other.

This problem of very diverse information needs in the case of Australia is further compounded by the facts that some states are more scantily populated than others; people in some states could be said to be living in more remote areas than in others; the economy of some states is predominantly industrial, that of others is resource - orientated. This has led to heterogeneous population trends in Australia. Further Australia is a multi-cultural country. There are a number of ethnic communities which form an important part of this nation. Australia is a country which is rich in languages: besides English, the other major languages of this country being Italian and Greek.

2. SURVEY OF EXISTING RESOURCES IN AUSTRALIA

2.1 INTRODUCTION

2.2 METHODOLOGY

2.2.1 SERIALS

2.2.2 SPORTS AND GAMES ONLY

2.3 RESULTS OF THE SURVEY

2.4 DISCUSSION AND CONCLUSION

2.5 RECOMMENDATIONS

2. SURVEY OF EXISTING RESOURCES IN AUSTRALIA

2.1

INTRODUCTION

The first stage in the discipline of Systems Analysis is to achieve a "definition of the problem". The problem in this case as discussed in the preceding chapter being the nature and extent of Australia's information needs in the field of the sport, recreation and leisure. The second stage is resolution of the problem. An attempt to resolve this problem, forces one to ask a number of questions. An attempt has been made to identify and answer some of these questions here. The remaining questions have been dealt with in the following chapter. The questions dealt with here are:

What are the existing resources in Australia (in terms of journals, magazines etc. held by various libraries)?

To what extent would these resources meet our needs if these were better co-ordinated; if these were developed in close co-operation with each other; and if relevant organisations (including the public libraries were informed of their existence)?

To what extent would these resources need to be strengthened? In what or how many phases should this strengthening of resources must occur?

2.2

METHODOLOGY

2.2.1 SERIALS ONLY:

To keep this study within the limits of time and resources available, this survey has been confined to serial holdings only. Whether a certain serial is held in Australia was determined with the help of the following well known bibliographic tools:

1. Serials in Australian libraries: Social Sciences and Humanities: a union list; compiled by National Library of Australia, September 1980.
2. Scientific Serials in Australian Libraries: a union list; compiled by C.S.I.R.O. 1976.
3. Supplement to Scientific Serials in Australian Libraries: a union list; compiled by C.S.I.R.O.; September 1980.
4. Physical Education, Health and Recreation Serials in Australian Libraries: a union list; compiled by Rusden State College (Victoria), 1980.

In addition to these bibliographic tools, the serial holdings of the libraries in those departments constituting SCOR were also examined for their resources in Australia in this field.

To evaluate the holdings of serials in Australian libraries, these holdings were compared with:

1. a list of periodicals included under "Sports and Games" Section of the Ulrich's International Periodicals Directory: 1977-1978 (hereafter referred to as Ulrich)
2. the lists of journals covered by data bases that were chosen for evaluation with particular reference to SIRC, SIRLS, Sportdokumentation (West Germany), Sports Documentation Monthly Bulletin, and Rural Recreation and Tourism Abstracts.

Traditionally, while conducting such surveys libraries (or librarians) prefer to divide the journals held into two categories: (a) holdings of complete sets; and (b) holdings of incomplete sets.

This approach of dividing journals into the above two categories can be useful in some cases. But its relevance as a way of demonstrating the scarcity or wealth of resources in a given area is increasingly declining because of the change in nature of contemporary research activity: Since World War 2 there has generally been a progressive reduction in "half-life" of research articles and continuing proliferation of inter-disciplinary subjects.

Therefore, while conducting the present survey this approach was abandoned. These two traditional categories were merged into one: journals held. But no journal was considered "held" unless its back issues for at least the last six years (i.e. going back to January 1975) could be located in Australian libraries. The exception to this rule were journals that have commenced publication after January 1975.

This criterion was used because experience in a wide range of subjects, including the social sciences, has shown that the information needs of most users including the researchers (other than some historians) can be met if one has easy access to the published literature of the last 5-6 years.

Therefore, it is hoped that the criterion used here is more pertinent from the viewpoint of users.

2.2.2 SPORTS AND GAMES ONLY

When comparing the Australian holdings against Ulrich's International Periodicals Directory, the journals listed only under the "Sports and Games" section were examined. Thus, this survey does not attempt to evaluate the existing Australian resources for the entire range of our information needs in the field of sport, recreation and leisure.

It was confined to such a small segment of our information needs for the following reasons:

- (A) Sport and recreation is a very young area of human endeavour. Consequently no international list of journals has yet been compiled or published which could have been used as a common denominator against which Australia's serial holdings could have been checked.
- (B) The international sport and recreation data bases are predominantly sports and games data bases. (This question has been dealt with in great detail in the next chapter.)

Because of these limitations it was concluded that the best way to approach this problem would be to confine this survey to the periodicals listed under "Sports and Games" section of Ulrich. It is hoped that this survey would prove to be a useful start in this area.

2.3 RESULTS OF THE SURVEY

Of the 21 data bases (for a complete list see pages 14 - 15) that have been chosen for evaluation, 8 are of Australian origin. It was therefore presumed that all the journals indexed in those data bases can be easily located here.

Of 13 foreign data bases 3 are medical and scientific in scope; and it is a well established fact that Australian libraries' serials holdings in this area are satisfactory.

Several libraries in Australia hold complete collection of Social Sciences section of NTIS library. Documents referred to in ERIC data base are available either on microfiche (marked "ED") or as printed material (marked "EJ"). A number of libraries hold complete collections of documents marked "ED" in ERIC data base. Documents assigned EJ numbers in most cases can be easily obtained too.

Another foreign data base chosen for evaluation was Comprehensive Dissertation Abstracts. It covers North American dissertations in all areas. It was therefore concluded that there would not be much point in evaluating Australian collections for references documented in this data base. This leaves us with seven data bases. These are: Social Sciences Citation Index, Enviroline, SIRC (Canada), Sportdokumentation (West Germany), Sports Documentation Monthly Bulletin (U.K.), Rural Recreation and Tourism Abstracts (U.K.), and SIRLS (Canada). It was soon discovered that most journals (relevant for this study) indexed in Social Sciences Citation Index and Enviroline are covered by the other 5 data bases.

Table 1 gives a statistical comparison of holdings of the serials in Australian libraries with the number of journals indexed in various data bases or listed under "Sports and Games" section of Ulrich:

Table 1 to follow

TABLE 1: COMPARISON OF AUSTRALIAN PERIODICAL HOLDINGS WITH ULRICH AND PERIODICALS INDEXED IN MAJOR SPORT AND RECREATION DATA BASES

The printed version of Commonwealth Agricultural Bureau's Rural Recreation and Tourism Abstracts does not enlist the journals indexed in it. Consequently, the list of periodicals covered in it was prepared by going through all the references published in its issues for 1980. The information on the number of journals (and their breakdown on linguistic basis) covered in Sportdokumentation (West Germany) and SIRLS was supplied by their respective staff.

NAME	TOTAL NO. INDEXED LISTED	%	%	% HELD IN AUSTRALIA		
				ENGLISH PERIODICALS	NON- ENGLISH PERIODICALS	% TOTAL
Ulrich	1353	69.8	30.2	13.5	0.7	9.2
SIRC	1168	71.4	28.6	49.4	39.2	46.5
Sportdok (W.G.)	340	33.6	66.4	68	not known	not known
Sports Doc (U.K.)	299	63	37	74.4	12	40.3
Rural Recreation	95	54	46	76	31	57
SIRLS	87	92	8	67.8	0	80

2.4

DISCUSSION AND CONCLUSION

The figures in Table 1 are self-explanatory. The other findings of the survey which this table does not reveal but worth discussing are as follows:

- (A) Australia's holdings of foreign language periodicals on sports and games are almost nil. As shown 30.2% (or 431) of the periodicals listed in Ulrich are in foreign languages. Australia holds only 0.7% of these.
- (B) Of those non-English periodicals covered by major sport and recreation data bases, Australian holdings comprise mainly those journals which are in scientific periodicals. The total number of foreign language periodicals solely relating to sports (e.g. coaching, physical education etc) is only a meagre few figure.

- (C) Australia's foreign language serial holdings of relevant medical and scientific journals are satisfactory. However, amongst these holdings there is a bias towards German, French and Italian journals. This is perhaps because traditionally most of the research activity has remained confined to these languages. But with the emergence of research activity in communist block countries particularly since World War 2, it is desirable that Australian serial holdings reflect this linguistic shift in published research. Further, international efforts must be made to co-ordinate and improve translation activities in this area.
- (D) No data base contains any journals published in Greek.
- (E) None of the libraries belonging to the departments that comprise SCOR holds a journal which is not located elsewhere in Australia.
- (F) There is a very high degree of overlap amongst holdings of the departmental libraries (referred to above) which means that even a maximum co-operation with each other by these libraries would not significantly improve these departments' access to existing relevant journals. This overlap, perhaps, reflects the similarity in functions and responsibilities of these departments.

2.5

R E C O M M E N D A T I O N S

The following recommendations emerge from this survey.

2.5.1

PREPARATION OF A LIST OF RELEVANT JOURNALS:

At present the information about serials published in and relevant to the field of sport, recreation and leisure is scattered over many such bibliographic publications as Ulrich's International Directory of Periodicals. As far as could be ascertained these directories do not give comprehensive, complete and up to date information about these serials. Further, because of the inter-disciplinary nature of this subject (recreation, leisure and sport) whatever information may be available in a bibliographic tool is dispersed under numerous and seemingly unrelated subject headings. Therefore, it is important that a careful attempt is made by going through various relevant sections of Ulrich; other similar bibliographic tools (both national and international in scope), and the lists of journals indexed in the data bases chosen for evaluation here to compile a list of journals in the field of

recreation, leisure and sport, and make it available in one volume. This list can then also be used as a basis towards developing serial collections in Australia.

2.5.2 ANOTHER SURVEY OF SERIAL PUBLICATIONS

After the list of relevant journals has been prepared another survey must be conducted to evaluate Australia's existing resources. This survey must include major public libraries too because my experience shows that public libraries subscribe to many more journals on sports and games than the National Library of Australia, various state libraries and most research and academic libraries. This is because it is only recently that sport, recreation and leisure has become established as a discipline in the universities.

2.5.3 SURVEY OF MONOGRAPHS, REPORTS ETC

Besides a survey of serial publications an attempt must be made to evaluate Australian resources in monographs, reports (including unpublished ones too) and non-print material available in this area.

2.5.4 NECESSITY OF NATIONAL EFFORT

The resources required to build collections in deficient areas would be of such dimensions that it would not be possible for any one state or library (including National Library) to take steps that would significantly change the present situation. An effort at a national level is therefore desirable.

2.5.5 NEEDS OF IMMIGRANTS

When the above mentioned efforts are made, the needs of Australia's ethnic communities must be kept in mind. Traditionally, whenever similar attempts have been made, the development of collections and serial holdings have been confined to literature published in the English language. This imbalance must be corrected.

3.

EVALUATION OF DATA BASES

- 3.1 INTRODUCTION
- 3.2 SELECTION OF DATA BASES
- 3.3 HISTORICAL RESUME
- 3.4 STUDY OF COVERAGE AND OVERLAP
 - 3.4.1 PROBLEMS OF STUDYING COVERAGE AND OVERLAP
 - 3.4.2 DEFINITION OF IDEAL COVERAGE
- 3.5 TEST CASES FOR EVALUATION
- 3.6 METHOD OF EVALUATION
- 3.7 OBSERVATIONS
 - 3.7.1 RELEVANCE ANALYSIS
 - 3.7.2 OVERLAP ANALYSIS
- 3.8 GENERAL DISCUSSION OF THE FINDINGS

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- 3.9 COMMENTS ON INDIVIDUAL DATA BASES
 - 3.9.1 SIRC DATA BASE
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 - 3.9.3 SPORTDOKUMENTATION
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 - 3.9.5 SPORTS DOCUMENTATION MONTHLY BULLETIN
 - 3.9.6 ANB AND APAIS
 - 3.9.7 ABUS
 - 3.9.8 AEI, ASTR AND COMMUNITY AFFAIRS BULLETIN
- 3.9 A CONCLUSIONS
- 3.9 B RECOMMENDATIONS

3.

EVALUATION OF DATA BASES

3.1

I N T R O D U C T I O N

This chapter deals with the following questions:

Amongst the existing foreign and Australian data bases -of both the kinds: computer-based and manually maintained - is there any data base or a combination of data bases that would adequately satisfy our needs?

If these do not meet the needs then can those areas be identified in which these data bases adequately meet our needs?

So that if a new data base were to be established any duplication of effort, that might otherwise go into it, can be avoided?

Due to the nature of the contents of this chapter, the usage of some technical terms from the Information Sciences could not be avoided. However, to assist the readers. These terms have been defined in a simple way in the glossary at the end of this report.

3.2

S E L E C T I O N O F D A T A B A S E S

Keeping in mind the diversity of information needs of various groups or members of the Australian community in the field of sport, leisure and recreation, 21 data bases were chosen for the purpose of evaluation. These are listed below:

Foreign

- (1) Biosis Previews
- (2) Comprehensive Dissertation Abstracts
- (3) Enviroline
- (4) ERIC (Educational Resources Information Centre)
- (5) Excerpta Medica
- (6) Medline
- (7) National Technical Information Service
- (8) Rural Recreation and Tourism Abstracts (this data base is a part of a bigger data base called Commonwealth Agricultural Bureau Abstracts)
- (9) SIRC data base
- (10) SIRLS (Information Retrieval system for the Sociology of Leisure and Sport. It is produced by University of Waterloo, Ontario, Canada)
- (11) Social Sciences Citation Index

- (12) Sportdokumentation: Literatur der sportwissenschaft. (It is produced by Bundesinstitut fuer sportwissenschaft, Koeln, West Germany).
- (13) Sports Documentation Monthly Bulletin (U.K.)

Australian

- (14) Australian Bibliography of Urban Studies
- (15) Australian Education Index
- (16) Australian Government Publications
- (17) Australian National Bibliography
- (18) Australian Public Affairs Information Service
- (19) Australian Science Index
- (20) Australian Scientific and Technical Reports
- (21) Community Affairs Bulletin

The scope, subject bias, coverage etc. of these data bases have been discussed in detail later in this chapter. Nevertheless, it would be worthwhile to mention why some of these were included. The data bases 1,5,6 and 19 were included for their coverage of information in such areas as: sports medicine, sport injuries, physiology of sports etc. Enviroline was included because of its coverage of literature in the field of urban planning and recreation, environmental aspects of recreation etc. The Comprehensive Dissertation Abstracts covers all published or unpublished dissertations originating from North America.

3.3

HISTORICAL RESUME

The best review of previous research with regard to the design of information systems in the social sciences has been given in DISISS research reports series A no. 5 prepared by the Bath University.³ For details the readers are referred to this valuable study.

However, a number of points emerge from my review of existing literature which are worth mentioning:

As far as could be ascertained no study, except that of Guy⁴, has been made to evaluate the data bases (or secondary services) relevant to the Social Sciences for their coverage of research being published in sport, recreation and leisure.

Guy's study, referred to above, attempts to compare the coverage and timeliness of references on the sociology of leisure in Sociological Abstracts and International Bibliography of the Social

Sciences (Sociology). He does not evaluate these data bases against either a bibliography compiled on this topic by an expert nor does he attempt to prepare a list of core journals in his chosen topic and then compare the coverage of these data bases against that list.

The DISISS report, referred to above, found that "by and large the research on secondary services has been non-cumulative". The present review of literature shows that this comment is still valid.

When compared with developments in science and technology, the situation in the social sciences with regard to the present level of current and retrospective bibliographic control, is greatly dissatisfactory.

The findings of the present study are based on the comparison of coverage of literature on eight topics in sport, recreation and leisure, while the authors of the DISISS report chose only two text cases to arrive at their conclusions. Further, this present study differs from DISISS in one very significant way: the DISISS authors evaluated various data bases by comparing them for the number of journals indexed. While this study attempts to evaluate these data bases by comparing these data bases for overlap of relevant articles.

3.4

STUDY OF COVERAGE AND OVERLAP

Perhaps the most important thing to recall here is that these data bases have been evaluated for their coverage, overlap, timeliness etc. of material originating from or pertinent to Australia and New Zealand in sport, recreation and leisure.

3.4.1

PROBLEMS OF STUDYING COVERAGE

Guy⁴ evaluated International Bibliography of the Social Sciences (Sociology) with Sociological Abstracts for overlap and coverage and currency of references on the sociology of leisure by comparing the two data bases for the number of unique and common references cited.

Such an approach is quite valid. But the difficulty with this method is that the interpretation of results so achieved is rendered very limited because of the lack of comparison of the coverage and these data bases with an "ideal" coverage. But the question "what is ideal coverage?" raises many more questions. To begin with it presumes, as has been pointed out in the DISISS report, that the intellectual concepts covered comprise a coherent subject or that the potential users of such a data base form a well defined category. Nevertheless, to be able to evaluate these data bases for coverage, a list of documents which these data bases are expected to index/abstract on a given topic is needed so that this question can be answered in a way that would be satisfactory from practical viewpoint.

3.4.2 DEFINITION OF IDEAL COVERAGE

For the purposes of this study the ideal coverage of a data base has been defined as:

- (A) all documents that could be classified as belonging to that intellectual discipline (sport, recreation and leisure) in a classification scheme such as: LC or Dewey classification schemes.
- (B) All documents of relevance to that discipline.
- (C) All documents of potential relevance.
- (D) All documents considered to be relevant to that discipline by various users (irrespective of their interpretation of, or approach to that discipline).

From the above definition, it would be evident that to evaluate a data for coverage a base list(s) of items (either journals or bibliographies on different topics in the same subject compiled by experts) are needed.

The base list(s) chosen here were bibliographies of articles, books, reports etc. on various topics in sport, recreation and leisure. These were preferred to lists of journals because it is believed that such a comparison would be more satisfactory.

3.5

TEST CASES FOR EVALUATION

After extensive discussions with many expert academics, the following 8 topics were selected as test cases. The sole guideline used to determine the choice of test cases for evaluation was that all these topics collectively must show the diversity of our information needs. The name(s) of the expert(s) associated with each topic is/are also shown. The addresses of these academics can be found in 'Acknowledgements' section of this paper.

<u>TOPIC</u>	<u>EXPERTS</u>
1. What is leisure and Recreation?	Mr Ian Frencham
2. Equity and urban recreation and urban planning.	Dr David Mercer
3. Community needs surveys with regard to recreation & leisure in Australia	Dr Ellery Hamilton-Smith
4. Exercise induced Asthma	Professor A. Mortan
5. Women, and sports and recreation	Dr Ian Jobling Dr Kent Pierson Ms Libby Darlison
6. Swimming pool: planning, design construction and usage	Ms Sally Mathven
7. Dance awareness, dance teaching and development of the appreciation of dance in the community	Ms Coralie Hinkley
8. Caves Management and Tourism	Dr Ellery Hamilton-Smith

3.6

METHOD OF EVALUATION

From the view point of the literature, the above 21 data bases can be classified into two groups:

Group (A)

1. Australian Science Index
2. Biosis Previews
3. Excerpta Medica
4. Medline

Group (B)

This group comprises the remaining 17 data bases.

The literature searches for the topic 'Exercise Induced Asthma' were confined to all the data bases in Group (A) as well as SIRC , Sports Documentation Monthly Bulletin, and Sportdokumentation (West Germany). While the literature searches for each of the remaining seven topics were confined to the 17 data bases in Group (B).

All searches were done by the present author except those on the Sportdokumentation and Medline data bases. Very kindly, the Sportdokumentation staff at Bundestinstitut fuer Sportwissenschaft, West Germany offered to search their data base and the National Library of Australia conducted searched on Medline for me. However, the search strategies to be used on both these data bases were supplied by me.

The following data bases were consulted in the traditional way of personally going through their back issues one by one:

- (1) Australian Government Publications
- (2) Community Affairs Bulletin
- (3) Sports Documentation Monthly Bulletin

All other data bases were searched on-line.

Every data base was searched at least for the period beginning January, 1975 to date, except for two which commenced publication after that date. These are:

- (1) Australian Scientific and Technical Reports
- (2) Community Affairs Bulletin.

The searches were also conducted through printed indices for those years of those data bases which have been in existence for the last six or more years but whose computerised versions are not available for the entire period beginning January, 1975 to date.

Given the unavoidable variations due to differences in format etc. of these data bases, as far as possible the same strategy was used for a given topic on all the data bases. While formulating the search strategies the emphasis was placed on achieving greater recall. For example, none of the literature searches were ranked to reduce the number of irrelevant documents retrieved before printing them. Often, near synonyms or terms with shared meaning elements

were used as if these were synonyms of a term in question. Thus, the recall was generally preferred to precision. However, this does not mean that precision was abandoned.

A large number of searches, other than on the topics chosen as test cases, were designed to evaluate these data bases for their scope, timeliness, indexing consistency, the quality of their thesauri (where applicable) etc.

To evaluate the results of these searches on test cases the expert(s) associated with each topic was/were also requested to supply me with (his/her)/their own bibliography(ies) for that particular topic. These bibliographies were obtained so that the degree of exhaustivity of these data bases can be established not just in a statistical sense, but according to the perceptions of people who know (or are expected to know) the literature in a given area as well as anyone would be expected. This decision was also taken so that these evaluative exercises would be interfered with as little as possible by any bias I may have.

Two of the experts could not supply me with bibliographies. Ms Coralie Hinkley, who has related "Dance and Community awareness" as a topic, thought nothing relevant had been written in Australia on this topic. Mr Ian Frencham, who has related the topic, "What is recreation and leisure?", instead of supplying a bibliography on this topic, went through all the search results and supplied me with 8 important references which were not retrieved from any of the data bases.

3.7

OBSERVATIONS

These evaluation experiments were designed to find answers to the following questions:

- (a) Which data base is good in what areas?
- (b) What is the degree of overlap between various data bases?
- (c) How many unique references (or documents) were found in a given data base on a particular topic?
- (d) How many references/documents listed in the bibliography on a given topic supplied to me by (an) expert(s) were found or not found when the literature for the same topic was searched on these data bases?

- (e) How comprehensive is the coverage of literature pertinent to or originating from Australia by a given data base?
- (f) If a new data base were to be established, how then can the answers to the questions (a) - (e) be helpful in its design, scope, development etc.

These data bases were not evaluated for such parameters as: cost-benefit and cost-effectiveness analyses, recall and relevance ratios, fall out ratios etc. It was so decided because in the light of the above mentioned aims of this study, it was thought that the evaluation of these data bases for such factors would be of secondary importance.

This evaluative data has been organised in the form of tables. These tables are arranged into two categories, each comprising 8 tables. These tables are self-explanatory. Yet a discussion here of some of the features of these tables is desirable.

3.7.1 RELEVANCE ANALYSIS

Tables 2 - 9 form the first category. Each of these is an analysis of documents retrieved from various data bases on a given topic. These documents have been analysed for their relevance and each search result has also been examined for the number of documents common between it and the references in an expert's bibliography on the same topic (bottom horizontal column).

A study of horizontal columns of each table will reveal that it was recognised that not all documents retrieved on a given topic would be either fully relevant or irrelevant; that some documents would be moderately relevant and the remaining documents would be only marginally relevant. The relevance of each document was assessed on the following scale:

<u>DOCUMENT TYPE</u>	<u>RELEVANCE VALUE</u>
fully relevant	1.0
half or moderately relevant	0.5
marginally relevant	0.25
irrelevant	0.0

For example, a study of Table 2 will reveal that from SIRC data base a total of 53 documents (see under the horizontal column called, "Total") were retrieved when it was searched for "Women and Sport". Using the above scale the relevance of these documents can be calculated as follows:

<u>DOCUMENT TYPE</u>	<u>NUMBER OF</u> <u>DOCUMENTS</u>	<u>X</u> <u>RELEVANCE</u> <u>VALUE</u>
fully relevant	16	(x 1 = 16.0)
moderately relevant	5	(x 0.5 = 2.5)
marginally relevant	12	(x 0.25 = 3.0)
irrelevant	20	(x 0 = 00.00)
Total	53	21.5

The next horizontal column, underneath the "Total" column reads "Percentage of relevance". This column shows percentage of relevant documents retrieved from a given data base on a given topic. It has been expressed in percentage terms to enable an easy comparison of one data base with all others with regard to that particular topic. This can be calculated as follows:

$$\text{Percentage of relevance} = \frac{\text{Relevance figure for a search} \times 100}{\text{Total no. of documents retrieved}}$$

For the example just discussed it would be:

$$\% \text{ of relevance} = \frac{21.5 \times 100}{53} = 40.6\%$$

Each search was also examined for the number of articles related to Australia and New Zealand. Readers will notice that four symbols have been used. Their meanings are as follows:

- * = fully relevant
- ½ = moderately relevant
- = marginally relevant
- / = irrelevant

In the example used from SIRLS on "Women and Sport", (Table - 2) to explain the relevance of these documents these figures should be interpreted as follows: Of all the documents retrieved, 3 were related to Australia and New Zealand. Of these three one was fully relevant, one moderately relevant and one irrelevant.

** Tables 2 - 9 to follow **

Table 2

Women and Sport

DEGREE of REFERENCE		women and sport																					
		E R I C	S P O R T	S I R C T	S P D O O L R C L R T	B U R R O O L R T	R U R B A N A T T R	A O I N S D P S E X	C D I M S D P S E X	N T I S	S S C I	S I R L S	S P D O O R K T	E N V I R O	L I N E	A P A I S	A E I	A S T R	A G P U O U S V B T ' T	A N B	C A B O F U M F L E T	A B U S	
NUMBER RELEVANT *		1	16		56	3		19			25	79	125			12				1	4	1	
NUMBER RELEVANT			5		2	1		3	2		8	8	44			1	1			2	1		
NUMBER MARGINALLY RELEVANT			12		3			7				5				1							
NUMBER IRRELEVANT /		5	20			92		16	18		38	78	222	2		4					2		
TOTAL		6	53		61	96		45	18		71	170	407	2		19	1	0	3	7	1	0	
PERCENTAGE OF RELEVANCE		16.7	40.6		94.7	36		49.4	5.6		40.8	49.6	29.8	0		67.1	50	0	66.6	64.3	100	0	
NUMBER OR AUST. & N.Z. CONTENT		6	53		*x2	/x1		0	0		0	$\frac{*x1}{\frac{1}{2}x1}$ $\frac{1}{3}$		0		19	1	0	3	7	1	0	42
NUMBER FOUND IN EXPERT BIBLIOGRAPHY		0/69	2/69		0/69	0/69		0/69	0/69		0/69	1/69			0/69	2/69	0/69	0/69	0/69	0/69	0/69	0/69	0/69

Table 3

Exercise Induced Asthma

DEGREE of RELEVANCE	DATA BASES	S S P I O R R C T	S B P D U O O L R C L T E T	B R I E O V S I I E S W	E M X E C D E I R C P A	M E D L A R	A I U S N S C D T E X	S D P O R K T					
NUMBER RELEVANT *		34	41	145	211	NA		3					
NUMBER 1/2 RELEVANT		4		5	22	NA		3					
NUMBER MARGINALLY RELEVANT		3		-	-	NA							
NUMBER IRRELEVANT /		5		59	258	NA		3					
TOTAL		46	41	211	491	NA	0	9					
PERCENTAGE OF RELEVANCE		79.9	100	69.9	45.2	NA		50.4					
NUMBER OF AUST. & N.Z. CONTENT		*x6	*x3	NA	48	NA	0		43				
NUMBER FOUND IN EXPERT BIBLIOGRAPHY		NA	NA	NA	NA	NA	NA	NA					

Table 4

Community Needs Survey with Regard
to Recreation in Australia

DATA BASES DEGREE of REFERENCE	E R I C	S P O R T	S I P O R T	S P D J R C L T	B U R R L	A R S A T T R	C O I N M S D P S E X	N T I S	S C I	S I R L S	S P O R T	D O K	E N V I R O	L I N E	A P A I S	A E I	A S T R	A G P U O U S V B T	A N B	C A B O F U M F L E T	A B U S
NUMBER RELEVANT				92						2					17			39	28	42	34
NUMBER RELEVANT				4												2		6	6	4	3
NUMBER MARGINALLY RELEVANT															1		3		0	7	1
NUMBER IRRELEVANT	7	1			10				15	1			1		3	2	7		76	2	2
TOTAL	7	1		96	10		0	0	15	3			1		21	4	10	45	110	55	40
PERCENTAGE OF RELEVANCE	0	0		97.9	0		0	0	0	66.7			0		82.1	25	7.5	93.3	28.9	83.2	45 89.4
NUMBER OR AUST. & N.Z. CONTENT	/x7	/x1		8	/x10		0	0	0	0			/x1		21	4	10	45	110	*x13 1/2x2 x2 17	40
NUMBER FOUND IN EXPERT BIBLIOGRAPHY	0/88	0/88		0/88	0/88		0/88	0/88	0/88	0/88			0/88	0/88	0/88	0/88	1/88	4/88	0/88		1/88

Table 5

Equity and Urban Recreation

Table 5		Equity and Urban Recreation																				
DEGREE of REFERENCE	DATA BASES	E R I C	S P O R T	S P O O L R C L R T	S B U R E A U R E S S A T T R	R E S P O N S E	A T T R I B U T E	C O I N D I C E X	N T I S	S C I	S I R L S	S P O R T	D O R K	E N V I R O N M E N T	A P A I S	A E I	A S T R	A G U O V S T	P U B L I C	A N B	C A B O F M L E T	A B U S
NUMBER RELEVANT *		12	12	237	4					23	36			7	52	2	4	61	34	32	37	
NUMBER RELEVANT		4	3		1					2	5			1	11	2		8	15	12	7	
NUMBER MARGINALLY RELEVANT		2	3		1					1	4				7			7	2	1	9	
NUMBER IRRELEVANT /		34	7		25	1				13	95			12	30	10	4		60		6	
TOTAL		52	25	237	31	1	0			39	140			19	100	14	8	76	111	45	59	
PERCENTAGE OF RELEVANCE		27.9	57	100	15.3	0	0			62.2	28.2			39.5	59.3	21.4	50	87.8	37.8	85	72.5	
NUMBER OR AUST. & N.Z. CONTENT	$\frac{x1}{x9}$ 10		25	16	31	1	0	0		0	2			19	100	14	8	76	111	$\frac{*x18}{\frac{1}{2}x4}$ 22	59	
NUMBER FOUND IN EXPERT BIBLIOGRAPHY		0/15	0/15	1/15	0/15	0/15	0/15	0/15	0/15	0/15	0/15			0/15	1/15	0/15	0/15	0/15	1/15	2/15	1/15	

Table 6

Caves Managements & Tourism

DEGREE of REFERENCE	DATA BASES	E R I C	S P O R T	S I R C	S P D O O L R C L R T	B U R R S A T T R	R U R B A T T R	A O I N M S D P S E X	C D I N T I S	S S C I	S I R L S	S P D O O R K T	E N L V I N R E O	A P A I S	A E I	A S T R	A G P U O U S V B T T	A N B	C A B O F U M F L E T	A B U S
NUMBER RELEVANT			5			2			1	1			1	16		4	2	5		1
NUMBER RELEVANT								1	1				2	1		6				
NUMBER MARGINALLY RELEVANT			2										1			2		1		
NUMBER IRRELEVANT			1			5			13				3	1		1				
TOTAL		0	8	0	0	7	1	15	1	0			7	18	0	9	2	6	0	1
PERCENTAGE OF RELEVANCE		0	68.8	0	0	28.6	50	10	100	0			25	91.7	0	83.3	100	87.5	0	100
NUMBER OR AUST. & N.Z. CONTENT		0	1*	0	0	0	0	0	0	0			0	18	0	9	2	6	0	1
NUMBER FOUND IN EXPERT BIBLIOGRAPHY		0/106	1/106	0/106	0/106	0/106	0/106	0/106	0/106	0/106	0/106		0/106	10/106	0/106	4/106	1/106	2/106	0/106	1/106

Table 7

Swimming Pool, Planning design and usage

DEGREE of REFERENCE	DATA BASES	E R I C	S P O R T	S I R C	S P D U O O L R C L R T	B U R R S A T T R	R U R B O I N M S D P S E X	A C D I N T I S	N T I S	S I R C I	S I R L S	S P D O O R K T	E N L V I N R E O	A P A I S	A E I	A S T R	A G P U O U S V B T ' T	A N B	C O F M M	B U F L E T	A B U S
NUMBER RELEVANT		7			130	9	3	16	1			130		7			7	10			1
NUMBER RELEVANT		11	1			13	2	17	3			40	6			1	1			2	
NUMBER MARGINALLY RELEVANT		3	1			4		4	0				5	1			3				
NUMBER IRRELEVANT		22				41	2	30	0	1		161	161	3		9	0	11			3
TOTAL		43	2		130	67	7	67	4	1		331	172	11	0	10	11	21	0		6
PERCENTAGE OF RELEVANCE		30.8	37.5		100	24.6	57.1	38.1	62.5	0		45.1	2.6	66	0	5	75	47.6	0		33.3
NUMBER OR AUST. & N.Z. CONTENT	$\frac{1}{2} \times 1$ $\frac{* \times 1}{2}$		2		3*	/x1	0	$\frac{1}{2} \times 1$	0	1			/x4	11	0	10	11	21	0		6
NUMBER FOUND IN EXPERT BIBLIOGRAPHY		0/44	0/44		0/44	0/44	0/44	0/44	0/44	0/44			0/44	0/44	0/44	0/44	2/44	2/44	0/44		1/44

Table 8

What is Leisure and Recreation

DATA BASES	E R I C	S P O R T	S I P O R C	S P D U R C L T	B U R R L	R U R A T T R	A C D I N S C I	C D I N S C I	N T I S	S C I	S I R L S	S P O R T	D O K	E N V I R O	L I N E	A P A I S	A E I	A S T R	A G P U O U S V B T	A N B	C A B O F M L E T	A B U S
DEGREE of REFERENCE																						
NUMBER RELEVANT	1	2		27			5		1	24	34					4			6		11	
NUMBER RELEVANT	1	3		9			5		1	9	9			4		2		1	3		5	
NUMBER MARGINALLY RELEVANT	4	2		3		1	6		2	7	0			6		2	1		6	1	7	
NUMBER IRRELEVANT	2					1	1		26	3	29			72		4	1	1		4		
TOTAL	8	7		39		2	17		30	43	72			82		12	2	2	15	5	23	
PERCENTAGE OF RELEVANCE	31.3	57.1		82.7		12.5	52.9		67	70.3	53.5			4.3		45.8	12.5	25	60	5	66.3	5
NUMBER OR AUST. & N.Z. CONTENT	8	7		*1		2	0		0	0	-			x1		12	2	2	15	5	*x2 x3 x2 7	2
NUMBER FOUND IN EXPERT BIBLIOGRAPHY																						

Table 9

Dance Awareness, Dance Teaching and Development
of Appreciation of Dance in the Community .

[illegible]

3.7.2

OVERLAP ANALYSIS

The Tables 10 - 17 form a second category to show a total of those documents (on a given topic) which were also retrieved from one or more data bases on the same topic.

The overlap between various data bases is so little that in most cases the total number of unique documents retrieved from a data base on a given topic can be easily calculated by subtracting the total number of overlapping documents from the total number of relevant documents retrieved on the same topic (shown in Tables 2 - 9).

** Tables 10 - 17 as follows **

Exercise Induced Asthma

Table 10

S P O R T	D O K	B I O S I S	R E V I E W	S P O R T	M O N T H L Y	S P O R T	E X C E R P T	M E D I C A	M E D L A R S	A S I	
											A S I
											MEDLARS
									NA		EXCERPTA MEDICA
NA		10					17		NA		SPORT SIRC
						3	4		1		SPORT DOCUMENTATION MONTHLY
							81		NA		BIOSIS REVIEW
							NA				SPORT DOKUMENTATION

OVERLAP CHART*

These charts indicate the number of overlapping documents found in various data bases.

Women and Sport

Table 11

A B U S	C O F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V I E R O	S D P O K R T	S I R L S	S S C I	N T I S	C O I M S P	R U R A L A T T L	A S D P O P O C R T	S S C I	E R I C	
																	ERIC
																	SPORT
															1		SPORT DOC
																	RURAL R & T ABSTRACT
																	COMP. DIS. MONTHLY
																	N T I S
														3			S S C I
									4					12	1		SIRLS
																	SPORT DOK
																	ENVIRO- LINE
											1						APIS
																	A E I
																	A S T R
																	AUST. GOV'T PUB.
				1													A N B
						1											COMM. AFFAIRS BULLET.
																	A B U S

OVERLAP CHART

Community Needs Survey with Regard to
Recreation In Australia

Table 12

A B U S	C A O F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V I E R O	S D P O K T	S I R L S	S S C I	N T I S	C D R O I M S P	R U R A L A T T R	A S D P O P O C R T	S S C I R C	E R I C	
																	ERIC
																	SPORT
																	SPORT DOC
																	RURAL R & T ABSTRACT
																	COMP. DIS. MONTHLY
																	NTIS
																	SSCI
																	SIRLS
																	SPORT DOK
																	ENVIRO- LINE
																	APIS
																	AEI
																	ASTR
						1											AUST. GOV'T PUB.
			12														ANB
																	COMM. AFFAIRS BULLET.
		4	1			1											ABUS

OVERLAP CHART

A B U S	C A F F A I R	A N B	A G P	A S T R	A E I	A P A I S	L L N I V E R S I T Y	S D P O K T	S I R L S	S S C I	N T I S	C D O I M S P	R U R & A T T L	A S D B P O C R T	S S P I R C	E R I C
																ERIC
																SPORT
																SPORT DOC
																RURAL R & T ABSTRACT
																COMP. DIS. MONTHLY
																NTIS
														2		SSCI
																SIRLS
																SPORT DOK
													4			ENVIRO- LINE
							2									APIS
						1										AEI
																ASTR
				1												AUST. GOV'T PUB.
			8	1		1	1									ANB
														2		COMM. AFFAIRS BULLET.
	1	12	5	1		4										ABUS

OVERLAP CHART

A B U S	C A O F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V N I E R O	S D P O K R T	S I R L S	S S C I	N T I S	C D O I M S P	R U R B S O C I A L	A S D P O P O L I T I C A N	S S C I	E R I C
																ERIC
																SPORT
																SPORT DOC
																RURAL R & T ABSTRACT
																COMP. DIS. MONTHLY
																NTIS
																SSCI
																SIRLS
																SPORT DOK
																ENVIRO- LINE
																APIS
																AEI
																ASTR
																AUST. GOV'T PUB.
															1	ANB
																COMM. AFFAIRS BULLET.
																ABUS

OVERLAP CHART

A B U S	C A F M F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V N I E R O	S U P O K T	S I R L S	S S C I	N T I S	C D O I M S P	R U R & A T T L	A S P O C T	S D P O C O R C T	S S P I O R C T	E R I C
																	ERIC
																	SPORT
																	SPORT DOC
																	RURAL R & T ABSTRACT
																	COMP. DIS. MONTHLY
													1			1	NTIS
																	SSCI
																	SIRLS
																	SPORT DOK
																	ENVIRO- LINE
																	APIS
																	AEI
																	ASTR
																	AUST. GOV'T PUB.
																	ANB
			2														COMM. AFFAIRS BULLET.
		1	1														ABUS

OVERLAP CHART

A B U S	C A O F M F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V N I E R O	S D P O K R T	S I R L S	S S C I	N T I S	C D O I M S P	R U R B A T T L	A S D B O C O R T	S S C O R C T	E R I C
									0						1	ERIC
																SPORT
									1							SPORT DOC
																RURAL R & T ABSTRACT COMP. DIS. MONTHLY
																NTIS
																SSCI
																SIRLS
																SPORT DOK
																ENVIRO- LINE
															1	APIS
						1									1	A E I
																A S T R
																AUST. GOV'T PUB.
																A N B
			1													COMM. AFFAIRS BULLET.
																A B U S

OVERLAP CHART

Dance Awareness, Dance Teaching and Development of
Appreciation of Dance in the Community

Table 17

A B U S	C O F M A I R	A N B	A G P	A S T R	A E I	A P A I S	E L N I V I E R O	S D P O K R T	S I R L S	S S C I	N T I S	C D O I M S P	R U R & A T T R L	A S B O C T	S S P O R T	E R I C	
																	ERIC
																	SPORT
																	SPORT DOC
																	RURAL R & T ABSTRACT COMP. DIS. MONTHLY
																	NTIS
													1				SSCI
												1					IRLS
																	SPORT DOK
																	ENVIRO- LINE
																	APIS
																	A E I
																	A S T R
																	AUST. GOV'T PUB.
			1														A N B
																	COMM. AFFAIRS BULLET.
																	A B U S

OVERLAP CHART

GENERAL DISCUSSION
OF THE FINDINGS

The present study of coverage and overlap has one limitation: the entire contents of the data bases chosen for evaluation are not known, i.e., a total of how many relevant references were contained in a data base on a given topic was not known.⁵

Yet from the analysis of data presented in the tables 2 - 17 above, a number of conclusions can be safely drawn. These are:

- (A) All the data bases chosen for evaluation contained references to relevant documents. As the overlap matrices will show, there was little overlap between various data bases (except amongst medical and scientific data bases). This suggests that the most obvious characteristic of the literature is its extreme diffuseness. Two related factors probably account for this diffuseness. The first of these is the fact that the 'sport, recreation and leisure' as an intellectual discipline is a nascent one. The second factor is the "part of" character of many items that comprise this discipline, i.e. a large body of literature pertinent to sport, recreation and leisure has been produced as part of some other area of human endeavour (e.g. education, medicine, pathology, biochemistry, history, politics, ecology etc.)
- (B) The present author is of the opinion of that in spite of the extreme diffuse character of the literature, the overlap of articles in these data bases is considerably less than would be expected. This is so because of a number of reasons:
 - (i) most of these data bases (particularly those in the social sciences) have been established without systematic planning. Several of these data bases have been established without conducting systematic user needs and preferences studies; and their coverage and format are based on the presumed size and nature of the market.

- (ii) Many of these services have never formed/published precise goals for themselves. Consequently whatever overlap one comes across is random. This lack of formulation of precise coverage objectives also accounts for the fact that the percentage of common articles in bibliographies supplied by the experts and the search results of these data bases is so low (even when one disregards references to such documents as monographs, unpublished or soon to be published articles etc., this percentage remains shockingly low).
 - (iii) In case of most data bases there is no evidence of co-operation in planning coverage of literature in sport, recreation and leisure or with regard to the allocation of responsibilities amongst themselves.
- (C) The study of print outs and the comparison of results on a data base between manual and computer based searches strongly suggests that the level of indexing in many of these data bases is poor, which in turn renders retrospective searching of these data bases (particularly APAIS, ANB, AEI, ASI, Community Affairs Bulletin, ABUS, ERIC, SSCI) difficult.
- (D) A survey carried out amongst academics, sport and recreation and research officers in government departments, and subject specialist librarians clearly indicated that many of them were not aware of the existence of some of these data bases. Of a few other data bases, which they were aware, they did not think that these would contain relevant items. This fact probably also accounts for such a low percentage of common documents in the bibliographies supplied by experts and the documents retrieved from these data bases.
- (E) The percentage of common documents in the bibliography on 'Exercise induced Asthma' supplied by Professor A. Morton and the documents retrieved from medical and scientific data bases chosen for evaluation was very high. This has already been demonstrated by a number of studies, that the bibliographic control in the social sciences is seriously inadequate in comparison to that of medical literature.

- (F) The Australian material is poorly covered not only by the foreign data bases but also by the Australian data bases.
- (G) Of all data bases evaluated, no data base can be recommended as a basis for improved current control or coverage.
- (H) An examination of various bibliographies supplied by the experts clearly indicates there is a need to control un-published and sem-published documents.
- (I) No single data base provided adequate coverage for literature pertinent to Australia (or otherwise) in sport, recreation and leisure.

3.9

COMMENTS ON INDIVIDUAL
DATA BASES

Besides evaluating these data bases for their coverage of literature in the field of sport, recreation and leisure, many of these were also evaluated at a preliminary level for various features of their thesauri (where applicable), indexing consistency (where applicable) and timeliness (i.e. the lapse of time between the appearance of a particular issue of journal and the indexing of articles in it). No comments are offered here on those data bases which have already been evaluated in great detail for all these and many other features in published literature. These include: Medline, Excerpta Medica, SSCI, ERIC, NTIS, Biosis Previews, and Enviroline. No comments are offered on Comprehensive Dissertation Index either. The latter has been omitted not only because it covers only North American dissertations, but also because whatever is generally true of ERIC, NTIS data bases can be said of this data base too.

3.9.1

SIRC DATA BASE

It is essentially a sport and physical recreation data base. However, our studies have shown that even when one evaluates this data base with its scope as defined above in mind, one finds that it is neither comprehensive nor global. It has a very heavy North

American bias in two significant ways which limits its usefulness to Australia:

- (1) the sports and games it covers
- (2) the published literature it presently covers.

Of 80 Sport and Recreation Periodicals listed in Current Australian Serials (1975), SIRC data base covers only 9. SIRC data base's coverage of sports which are not popular in North America is poor. Further, it does not give any coverage to games at all (e.g. Chess, Bridge etc).

SIRC Thesaurus: It is not an adequately constructed thesaurus. The quality of its vocabulary control is not satisfactory: it has about 30,000 index terms, which is an extremely high number of descriptors to be used by a data base of its scope. A better appreciation of an adequate control of these index terms is achieved when one compares this thesaurus with that of Sportdokumentation thesaurus. The latter is similar to SIRC in scope and has only about 10,000 index terms. SIRC thesaurus has grown unduly large because it uses both singular and plural forms of many words as index terms. It also does not adequately control index terms with variant spellings.

The following table will illustrate these deficiencies fully:

INDEX TERMS	NO. OF POSTINGS
Woman	5596
Women	189
Game	803
Games	127
Sport	10991
Sports	57
Behaviour	528
Behavior	96

Perhaps what is of greater concern is the fact that its thesaurus

uses synonymos and near-synonyms of many terms (this is particularly true in the case of scientific and psychological terms) as index terms too.

This thesaurus has not only recognised many more terms than necessary as index terms, but it is also not adequately cross-referenced. Its timeliness of at least the machine readable files (its printed index was not examined for it) is unsatisfactory: as of 4.1.1981 its most recent update available through ORBIT is for March 1980.

3.9.2 SIRLS

The indexing consistency and vocabulary control in this data base are high and satisfactory. However, its thesaurus is very heavily influenced by the format of the Library of Congress: Subject Headings (LCSH) list. Consequently, it continues to follow those practices of LCSH which have been abandoned (because of thier limitations and also clumsiness) by most computer-based data bases which maintain thesauri. These features are:

1. It has a very high percentage of pre-coordinated terms;
2. It has many inverted descriptors e.g. "Play facilities for", "Play definition of" etc;
3. It uses punctuation marks between its multi-word (phrase) descriptors.

I have been advised that its present thesaurus is being revised. It would be interesting to see in what ways it will differ from its old edition.

SIRLS' query language has many limitations which one does not come across while using such systems as Dialog, AUSINET, ORBIT etc. The most important of these are:

1. It does not offer adjacency logic.
2. It does not permit a reference to a previous search statement. In fact all the searches on this data base should be so constructed that these can be carried out in one statement.

3. It does not permit one to store a search.

SIRLS indexes only one Australian journal.

3.9.3 SPORTDOKUMENTATION

As has been pointed before the searches on this data base were conducted for me by the staff of Bundesinstitut fuer Sportwissenschaft (West Germany). On the basis of the other information supplied to this author by the Sportdokumentation staff following conclusions can be safely drawn about this data base:

It started mainly as a sport sciences (i.e. sports medicine, biomechanics of sports, movement education, biochemical and psychological developments relating to sports etc) data base and has diversified its scope only in the last 3 - 4 years. Its thesaurus has about 10,000 index terms. Part of its thesaurus is structured and the remaining is an alphabetically arranged list of index terms. This thesaurus is being revised too. Of 340 journals indexed in this data base, about 180 are in German. It covers 4 Australian journals. These are: Australian Journal of Sports Medicine, Modern Athlete and Coach, Sport Coach, and ACHPER. Most English language journals indexed in this data are also indexed in Sports Documentation Monthly Bulletin. From my discussions with Sportdokumentation staff I am led to conclude that its vocabulary management is satisfactory.

3.9.4 RURAL RECREATION AND TOURISM ABSTRACTS

It is a sub-set of Commonwealth Agricultural Bureau data base. Its main coverage of recreation is from agricultural and environmental viewpoint, though it does abstract articles on theoretical aspects of recreation, outdoor recreation, social effects of tourism on local people, nature conservation, parks and wilderness management etc. Most of its descriptors are one-word terms. Sometimes both American and British spelling variants of a term are used as descriptors. Its timeliness of coverage of Australian material varies from 6-18 months. On computer it is updated monthly, but its hard copy appears quarterly. It indexes about 1600 - 1700 documents per year.

3.9.5 SPORTS DOCUMENTATION MONTHLY BULLETIN

It is available only as a printed index. All the references in it are arranged under broad subject headings. Its format is like most departmental libraries' current awareness bulletins. It deals mostly with scientific aspects of sport, physical education and recreation. It covers some sociological aspects of this discipline too. From January 1977 each issue of this bulletin contains an index at the back (as in books). It is perhaps the most timely of all.

3.9.6 ANB AND APAIS

Both started as manually maintained data bases. Even though these have been available in machine readable form for some years, yet their patron, the National Library of Australia, has done nothing as yet to make them more suitable for computer based searching. Both use many pre-coordinate index terms. Perhaps the most serious drawback of these data bases is that neither assigns adequate number of descriptors to its documents, thus making both the interrogation of, and adequate retrieval from these data bases difficult. Further, from the viewpoint of indexing, the document-term relationships, when organised as matrices appear very poor. APAIS does not reach out specially for material on sport, recreation and leisure. It indexes only those articles which appear in journals/newspapers on its indexing list. ANB also leaves much to be desired with regard to timeliness and format. The failure to mask various MARC 2 fields and sub-fields makes it difficult for a user to like it.

3.9.7 ABUS

It indexes literature that may deal with those aspects of sports and recreation that relate to the urban studies. After the publication of a document, it may take up to 1-2 years before a reference to that document appears in ABUS. Up to 65% - 75% articles indexed in it can be traced through in APAIS and ANB many months before they appear in it.

3.9.8 AEI, ASTR AND COMMUNITY AFFAIRS BULLETIN

The AEI uses Eric descriptors and indexes articles relating to schools and recreation. It indexes only those articles which predominantly appear in Australian educational journals. The ASTR data base is too young and consequently its size is very small. Because of these factors, one must wait for some more time before attempting to evaluate it. Community Awareness Bulletin is a current awareness bulletin appearing monthly only in printed form. Absence of an index at the back of it makes it difficult to use this data base. It has references to both Australian and foreign material. It is compiled on the basis of daily intake of journals and monographs at the National Library of Australia.

3.9 A C O N C L U S I O N S

None of the data bases chosen for evaluation either individually or collectively would meet Australia's information needs.

3.9 B R E C O M M E N D A T I O N S

When one tries to put the findings of this chapter in the perspective of the findings of the preceding chapters the following recommendations emerge:

1. At national level urgent steps must be taken to improve all aspects of information collection, organisation, retrieval and dissemination, in the field of sport, recreation and leisure.
2. To achieve this goal, a detailed investigation must be made of the possibility of creating a new data base or inputting the relevant data to an existing data base.
3. When collecting data special consideration should be given to a growing number of valuable unpublished reports and non-print material.
4. This new data base (or the one to which input would be made) must be nationally available.

4.

AUSIRC : A CRITIQUE

- 4.1 INTRODUCTION
- 4.2 ATTRACTIVE FEATURES
- 4.3 WEAKNESSES
 - 4.3.1 NEEDS ANALYSIS
 - 4.3.2 DEPENDENCE ON SIRC DATA BASE AND LIBRARY
 - 4.3.3 LACK OF DATA BASE EVALUATIONS
 - 4.3.4 STATISTICS
 - 4.3.5 FUNDS
 - 4.3.6 INPUT TO SIRC DATA BASE
- 4.4 CONCLUSION

4.

AUSIRC : A CRITIQUE

4.1

I N T R O D U C T I O N

When the conclusions of the evaluation studies, discussed in the preceding chapter, are contrasted to Australia's information needs in the field of sport, recreation and leisure ⁶, one fact makes itself more pointedly evident than all others: a number of steps simultaneously need to be taken in all aspects of collection, organisation, storage, retrieval and dispersal of information; and that these efforts must be made at a national level.

Before one attempts to develop a proposal which would address itself to all these problems, it would be appropriate to consider a proposal called, AUSIRC (or Australian Sport Information Resource Centre) which has been prepared by the Footscray Institute of Technology, Victoria.

Footscray must be commended for taking the initiative to put forward a proposal that attempts to meet Australia's information needs in the field of sport, recreation and leisure.

4.2

A T T R A C T I V E F E A T U R E S

AUSIRC offers a number of attractive features ⁷ which would be essential to any information service in this field. These are:

- (A) Establish a centre whose information resources must be available to the entire Australian Community.
- (B) This national centre must not only be able to provide a user on request with a list of references etc. on a given topic, but it should also be able to supply, obtain or locate a copy of a particular document ⁸ needed by a user.
- (C) Besides monographs, periodical publications, unpublished theses (e.g. University of Oregon collection) and reports, it must collect addresses and annual reports of various sport and recreational organisations, curriculum material, education handbooks and prospectuses.
- (D) It must occasionally publish bibliographies on broad themes in this field.

- (E) It must maintain a register of all research projects in progress in Australia.

Two other features briefly discussed in AUSIRC and worth encouraging are: The development of a statistical data base on leisure behaviour patterns of people/communities (see Appendix A); and the development of a games archives and museum. (See Appendix B).

4.3

W E A K N E S S E S

However, the following significant factors make this proposal vulnerable:

4.3.1

NEEDS ANALYSIS

Footscray has prepared this proposal without attempting a systematic analysis of needs. Although the proposal contains two sections called "Needs Analysis" (P.4) and "Scope" (P.9) the discussion of needs is general and vague. Nowhere has an attempt been made to specify, quantify or identify the nature of these needs.

4.3.2

DEPENDENCE ON SIRC DATA BASE AND LIBRARY

To be able to offer its services, AUSIRC will rely on SIRC data base and SIRC library to such an extent that its dependence on SIRC cannot be over-emphasised.

Though AUSIRC is so heavily dependent on SIRC data base in providing its services, it is a serious drawback to its proposal that Footscray has not made even the most preliminary attempt to evaluate SIRC data base.

Against a background of Australia's information needs in sport, recreation and leisure, SIRC has been evaluated in detail in chapter 3 of this report. As AUSIRC has reported, SIRC data base is primarily concerned with sport and physical recreation. Further, it has a very strong bias not only towards literature published in North America but also towards games played on that continent. This is not to say that SIRC is not a useful data base

but because of the nature of Australia's information needs, its usefulness to the Australian community is limited.

4.3.3 LACK OF DATA BASE EVALUATIONS

Our evaluation studies have shown that there are at least 21 major data bases in the field of sport, recreation and leisure. It raises serious concerns that Footscray's proposal not only lacks an evaluation of these data bases for their usefulness and relevance but, except for two or three data bases they have not even been mentioned.

4.3.4 STATISTICS

A further study of the AUSIRC proposal raised some questions regarding Australian holdings.

AUSIRC states that:

"Of 1353⁹ international regular periodical and serial titles complete holdings of 0.89% and incomplete holdings of 4.28% are readily locatable within Australia." (AUSIRC P.4).

My survey suggests that 9.2% (as against 5.2% claimed by AUSIRC) of these 1353 periodicals, are readily locatable¹⁰ in Australia.

If AUSIRC is limiting its survey of Australian holdings to these 1353 journals only, then it is interesting to note that the SIRC data base covers only 16% of these journals - in spite of the fact that 922 (or 68%) of these are English language publications. The significance of this must be realised in the light of the fact that the AUSIRC proposal relies so heavily on SIRC.

Of all the serials covered by the SIRC data base, Footscray has used the 647 core journals to conduct its survey of Australian holdings and concluded that only 28%¹¹ of these journals are found in Australia. It is on the basis of these findings that Footscray has asked for funds.

I have examined this list of CORE journals using the following criteria.

- (A) Many journals or newsletters which are regional or local in scope would be of significance to Canada but their usefulness to Australia is doubtful.
- (B) Unlike Canada, French is not one of the two major languages of this country.
- (C) There are some sports which are more popular in North America than in Australia.
- (D) If a certain non-English periodical is not a research journal and English language serials having more or less the same style and subject coverage are held in several well known places in Australia, then such a serial should not be considered a core journal.

For example, the following journals are only a sample from AUSIRC's list of CORE journals (none of these are held in Australia):

1. Alberta lacrosse
2. Amicale des entraineurs francais d'athletisme
3. Bergsteiger
4. Boletin cientifico - tecnico inder - Cuba
5. Bulletin - Federation internationale de luge de course
6. Bulletin d'education physique
7. CLQ (Culture - loisirs - Quebec)
8. Colorful Colorado
9. EPS (Education physique et sport)
10. New release - University of Saskatchewan - Huskie - Huskiette
11. Plongee sous - marine
12. Tennis Quebec

This list of CORE journals is also arbitrary in the sense that it does not contain some serials - all of which are indexed in SIRC - which one would expect in such a list.

The following is a sample list of journals held in Australia, but not considered CORE journals by Footscray's proposal:

1. Age and Ageing
2. Archives of environmental health
3. Arts in Society
4. Australian and New Zealand journal of psychiatry
5. Community Health

6. Counselling Psychologist
7. Harper's Magazine
8. Journal of Human ergology
9. Journal of Biomechanics
10. Medical Journal of Australia
11. Saturday Review World
12. Town Planning Review

It must be evident by now that many journals considered CORE journals seem of little use to Australia or would be used so rarely that these do not warrant regular subscription.

If all the journals covered by SIRC data base are considered rather than only the chosen core journals, Australia holds 46.5% of them. Further, if only English language journals are considered, Australia holds 49% of them.

In my survey - unlike in Footscray's proposal - I did not divide the journals held in various Australian libraries into two traditional categories: (a) holdings of complete sets; and (b) holdings of incomplete sets. As many readers may know, numerous journals covered by SIRC data base started publication 50, 60 or even more years ago. In my survey, I have considered only those journals as being held in Australian libraries whose back issues for at least 6 years (up to January 1975) can be found, except in the case of those journals which have commenced publication after 1975. I have used this criterion for the same reasons as explained on page 7 of this report. To these reasons should be added the fact that the collection of most journals in SIRC data base library goes back to only January, 1975.

4.3.5 FUNDS

Two most expensive items for which AUSIRC has asked for funds¹² are:

- (A) \$29,000 to enable it to duplicate a major part of SIRC library. (This expenditure is once only).
- (B) It seeks a recurring annual funding of at least \$21,000 to subscribe to 800 journals.

It has been mentioned in various places in the text of AUSIRC, that most journals subscribed to by AUSIRC would be the same as those

covered by the SIRC data base. In the light of the limited usefulness of SIRC data base to Australia, the need to duplicate SIRC library to such an extent and very largely subscribe to the same journals as are indexed in SIRC data base seems to me at best doubtful.

4.3.6 INPUT TO SIRC DATA BASE

AUSIRC proposes to input Australian bibliographic data to SIRC data base.

Referring to monographs, AUSIRC states that these would form "a necessary part of the Australian contribution to Sports - the SIRC computerised data base".¹³

There are several other passages to this effect in AUSIRC.

When confronted with the possibility of creating a new data base, one must ask: (a) Is there a need to create a new data base? (b) Can our needs be adequately served by making an input to an existing data base?

After having examined the merit of making an input of Australian data to SIRC data base, I have concluded that it would not be advisable for many reasons. The most important of these are:

- (1) Input to SIRC data base can be made only in two ways: off-line or on-line. The off-line input can be made either by filling in coding sheets or by punched cards. Both methods are very time consuming and prone to errors. Off-line input will also mean long delays because these coding sheets or decks of punched cards will have to be mailed to SIRC. The actual input of Australian data to SIRC will then depend on the priorities set by and time available to SIRC staff. If the input were to be made on-line it would be extremely costly because of the recurring telecommunications costs involved in seeking connection to SIRC computer in Canada.
- (2) Whether input is made to SIRC or not, Australia will need the same level of infrastructure support in terms of reaching out to relevant information, subscribing to journals/magazines, buying books, reports etc., and indexing all the documents to be inputted.

- (3) SIRC is primarily a data base on sports and physical recreation. The Australian material that would need to be inputted on SIRC would be so diverse in nature that the existing SIRC thesaurus would be useful only to a small percentage of Australian material. Not only that, before Australia could begin to use SIRC thesaurus, it would need to closely examine it for at least three reasons:

- (a) Australian versions of some games are different from North American versions.
- (b) Acceptance of different terms for the same concept by Australian and North Americans.
- (c) There are some games which may need to be more thoroughly indexed from Australia's view-points because these games are more popular here.

It must be evident from the above discussion whether Australia were to index the remaining very large percentage of its material into SIRC data base or to create a new data base, Australia will have to develop a thesaurus from scratch.

- (4) SIRC data base's thesaurus suffers from indexing inconsistency and its vocabulary management is not adequate (for details see evaluation of SIRC data base). This would adversely affect the input, searching and retrieval of Australian material.

It is worth recalling here that defining the intellectual scope of a thesaurus, identifying appropriate terms for these concepts, establishing hierarchies between various terms, adequately cross-referencing these terms, testing a thesaurus for effective retrieval etc. need a great deal of time, funds and research.

This means that by choosing to make its input to SIRC data base, Australia would not be able to significantly reduce or avoid costs involved in the creation and development of a data base.

- (5) By choosing to make input to SIRC data base, Australia would also be forced to accept limitations intrinsic in the design of SIRC data base.
- (6) SIRC data base users are mostly confined to North America. Consequently, its priorities - particularly with regard to the input of data - will always be determined by its North American users. It is not very difficult to guess that the needs of Australian users will never be on its top priority.
- (7) Making input of Australian data to SIRC data base would also mean very high costs with regard to accessing this data. Every time an Australian user wants to use this data base, he/she will have to dial ORBIT's computer in California. Besides these telecommunication costs, an Australian user will also have to pay ORBIT about A\$70 per hour (at present rates) to access Australian

information on SIRC data base. This would greatly prohibit its use. To understand the full significance of these costs one must recall here that major Australian data bases e.g. ANB, APAIS etc., which are supported by government funds and are available through AUSINET charge approximately \$4.00 to \$5.00 per hour as royalty from their users.

- (8) Australia will not have any control on the pricing policies of SIRC data base and ORBIT. These policies will often be influenced by factors that would not be related to Australia in any way and would thus adversely affect Australian users.
- (9) One could presently argue that through SIRC data base, Australian data would become immediately available to people in Europe and North America. And that to promote such greater ideals as international co-operation with regard to dissemination of information, Australia must sacrifice some of its own interests. This too, in fact, is a non-reason. Because in 1982 the Telecom Australia would be introducing packet switching networks. The introduction of this service would mean that Australian data bases would be as easily available to European and North American users as North American and European data bases are available to Australians at present through such services as Dialog, ORBIT etc.
- (10) With regard to the availability of their own data, Australian users would suffer from the lack of timeliness of SIRC data base for no fault of theirs.

It is abundantly evident that inputting of Australian data to SIRC will not achieve any savings in any area. On the contrary, it would vastly increase operational and accessing costs of Australian data by Australian users. Nor would it save Australia any developmental or infrastructure costs. Rather, it will create an absurd situation where Australia would be spending far more money and time yet would have no control on any crucial policy decisions.

4.4

C O N C L U S I O N

From the above discussions of the AUSIRC's proposal, it must be evident that its deficiencies by far outweigh its attractive features. Even if its inadequacies were dismissed, the fact remains that this proposal will not be able to meet Australia's information needs in the field of sport, recreation and leisure as these have been identified in this report. Whatever needs it may meet, it would not meet them in a cost effective and efficient way.

5.

INFO RELEASE

- 5.1 INTRODUCTION
- 5.2 NAMING THE NATIONAL CENTRE
- 5.3 TIME NEEDED FOR ESTABLISHMENT
- 5.4 LOCATION
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5.

INFO RELEASE

5.1

I N T R O D U C T I O N

Australia's very diverse needs in the field of sport, recreation and leisure have now been established. Further study has indicated that the existing foreign and Australian data bases even collectively would not meet these needs.

All conclusions drawn so far clearly indicate a need for a national centre whose activities must be directed at achieving an efficient and prompt collection, organisation, retrieval and dispersal of information in the field of sport, recreation and leisure; and whose services must be available to all. The proposed concept of a national centre. INFO RELEASE, which has been developed here, meets these objectives.

5.2

N A M I N G T H E N A T I O N A L C E N T R E

I suggest that this centre be called INFO RELEASE. This is an acronym for " Information Network For Recreation, Leisure And Sport". The name INFO RELEASE is longer than most acronyms, but it does recognise the diversity of Australia's information needs. Also implicit in this name are the twin concepts of information collection and dispersal. However, my choice of this name is tentative should someone else suggest a better name. Alternatively, the task of christening the proposed national centre may be left to the people who will be responsible for establishing it. Nevertheless, in this report whenever I use this term, I would be referring to this proposed national centre.

5.3

T I M E N E E D E D F O R E S T A B L I S H M E N T

INFO RELEASE proposal has been planned in such a way that it would be able to offer some of its services (e.g. conducting literature searches on request on existing data bases) within four weeks of its inception. Within three months of its existence it would be able to offer document delivery and general reference services at a small level. Within 9-12 months of its existence, it would be able to operate fully and offer all of its services as these have been outlined later in this chapter.

L O C A T I O N

There are a large number of institutions that are presently active in some way in the field of sport, recreation and leisure. Before going any further, it would be appropriate to state here that at present there is no government department, university, college or research institution whose activities, teaching courses or research programs match the diversity of scope which would be so characteristic of INFO RELEASE. It was, therefore, very soon realised that any choice of site for the latter would have some limitations. Another minor limitation has been the fact that any site had to be acceptable to all the states and Commonwealth.

The present author feel that a national information service like INFO RELEASE must be situated in Canberra (Fortunately, this feeling is also strongly shared by an overwhelming majority of SCOR members).

Canberra has the following institutions which would be suitable to house INFO RELEASE:

- (1) Commonwealth Department of Home Affairs and Environment
- (2) The National Library of Australia
- (3) The Australian Sports Institute
- (4) The Australian National University
- (5) Canberra College of Advanced Education

Home Affairs and Environment showed no interest at any stage in housing INFO RELEASE. (In fact no department comprising SCOR was enthusiastic about accommodating INFO RELEASE. Another concern expressed about Home Affairs was that a service like INFO RELEASE is likely to remain low on the priority of a department with such a vast range of functions as this one. Consequently, the development and expansion of INFO RELEASE would suffer particularly in the light of the fact that to get adequate funds and to achieve an increase in staff is so difficult for public service departments these days.

National Library also had to be soon dropped from the above list because it did not think it was the role of NLA to offer specialised information service in any area.

The Australian Sports Institute has been very enthusiastic towards housing INFO RELEASE. Its Director-General, Mr Don Talbot, has agreed to offer necessary building space and has promised to make available his institute's library resources and other facilities (e.g. electricity, cleaning etc.) to INFO RELEASE.

Sports Institute, in the light of the terms negotiated above, offers the following advantages:

- (1) INFO RELEASE will not have to subscribe to those hundreds of national and interational journals which Sports Institute library will have to subscribe to (irrespective of the location of INFO RELEASE).
- (2) Sports Institute library will be able to give INFO RELEASE all the support (e.g. in acquisition of documents, access to encyclopedia, dictionaries etc) which any other institute's library may be able to offer it.
- (3) The Australian Sports Institute will be regularly purchasing a lot of non-print material (films, video cassettes etc) in areas of its interest. Consequently it is likely to develop a major collection of these kinds of material. This will give INFO RELEASE a unique opportunity to index this material without having to incur any extra expenditure. This in turn will greatly increase the usefulness of RELEASE data base. The non-print documents are usually very costly: As a matter of fact it is only if INFO RELEASE were situated in Sports Institute that it would be possible for the former to index this material.
- (4) Many national institutions (e.g. Australian Institute of Urban Studies, Australian Council of Educational Research, Australian Institute of Criminology etc.) already are involved in such activities as: creating a data base in areas of their interests; putting out a printed index etc. The establishing of INFO RELEASE within Sports Institute will therefore be well in accordance with a pattern that has already developed in this country.
- (5) It will greatly help in advertising the services of INFO RELEASE to many of its potential users (sportspersons, coaches, referees, sport administrators, doctors etc) at a relatively less expense.

The presence of INFO RELEASE on Sports Institute campus will uniquely benefit the latter too. Some of these benefits are enumerated below:

- (1) It will bring a large number of sport organisations, associations etc. closer to Sports Institute and thus consolidate its role as a national leader. Further, it will bring Sports Institute closer to the Australian community and help them identify with it.
- (2) If INFO RELEASE were not situated in Sports Institute, the latter will be forced to find resources to start some kind of in-house documentation service. It would thus help the Sports Institute in making some savings in cost and in avoiding duplication of effort in some other areas.
- (3) The presence of INFO RELEASE will greatly strengthen the resources of Sports Institute library at no extra expense.

The relationship between INFO RELEASE and Sports Institute would ensure maximum utilization of the resources of both the organisations.

From the above discussion it must be evident that tremendous savings in developmental and operational costs of INFO RELEASE can be achieved by locating it in Sports Institute. Besides the latter would also benefit by the presence of INFO RELEASE.

However, there are some disadvantages: These are as follows:

- (1) The area of interest of Sports Institute is too narrow in comparison to INFO RELEASE. It is, therefore, possible that INFO RELEASE may develop a bias towards sports.
- (2) Sports Institute has only very recently been established. It would be some time before its library resources would be substantial. This may delay the effectiveness of INFO RELEASE too because its development would become tied to that of Sports Institute's library.

It has not been possible for this author to discuss this matter with the Australian National University and the Canberra College of Advanced Education authorities in as much detail as it deserves. Consequently it has not been possible for either institution to respond to my enquiries. I suggest that both these institutions be contacted and the matter be raised with them again.

Both these institutions would be attractive choices because of their well developed library resources (e.g. Canberra College has a good library in the areas of recreation and leisure). On the negative side their resources in sports and in non-print material

are not likely to be as good as that of Sports Institute. It is, however, important that both these institutes must be asked to offer at least the same facilities and support as those offered by Sports Institute.

5.5

ADMINISTRATIVE STRUCTURE

If one presumes that INFO RELEASE will be hosted by an institution which already has resources (and will continue to build them) in some of the areas within the scope of INFO RELEASE, then it becomes imperative that its administrative structure and its relation with the host must be such that a maximum and mutual utilisation of resources of the two organisations is achieved.

It is essential that the Chief Librarian of the host institution and the Manager of INFO RELEASE work very closely to each other to avoid as much as possible any duplication of resources. The relationship between the two must be formal, at the same time the Manager of INFO RELEASE must not be subordinate to him/her. It is worth recalling here that the budget of INFO RELEASE will be independent of its host institution. Further, the aims of the two institutions would be different from each other. It is, therefore, important to have such a relationship so that any bias or budget priorities of the host institution do not directly and adversely affect INFO RELEASE. This arrangement would also ensure that INFO RELEASE act according to its charter and does not lose its identity in its host.

If INFO RELEASE is solely funded by public money, then its manager must be responsible to the Secretary of Home Affairs. If it is partly or fully funded by a private organisation then this fact must reflect in its administrative structure too.

5.6

INFO RELEASE: SCOPE

In accordance with the diverse nature of Australia's information needs, as discussed in the beginning of this report, INFO RELEASE will have to concentrate in many areas. It would, therefore, be appropriate to further specify this diversity by identifying the major intellectual concepts which must form its broad base. These concepts can be arranged into the following groups or categories:

1. All individual sports and games (including electronic games) which are played or are becoming popular in Australia.
2. Sport administration and management, training of sportsmen; sport coaching; physical education; training of sport coaches, referees; sports and teaching and training institutions; sport, recreation and leisure and school and university curricula.
3. Biochemical, physical, physiological and psychological developments relating to sports, sportspersons etc, sports medicine; sports accidents and injuries; sports insurance schemes; sports and safety; children, games and safety.
4. Physical fitness; gymnastics; callisthenics; health education of the community; nutrition and health; movement education; kinesiology; human body and exercise.
5. Sport, recreation and leisure and various age groups; sport, recreation and leisure and special populations (e.g. handicapped persons, ethnic groups); children and sport and recreation.
6. Sport equipment; Sport trading.
7. Philosophy, definitions, overviews of various sports games; and of recreation and leisure as intellectual concepts; sports and politics; sports and history; sports and nations; sports and community; sports and government; sports and law; sponsorship of sports; public relations in sports, physical education etc; sports and advertising; sports and economics; physical culture; socialization and sports; sport employment and career opportunities; sport and culture.
8. Sports, recreation, leisure, and technological developments; sports, recreation and leisure and mass media.
9. Women and sport (including discrimination, cultural attitudes; medical, biological research pertaining to sportswomen); femininity and recreation and leisure.
10. Family and sport.
11. Play grounds and recreational facilities - building, design etc; agricultural fairs; show grounds.
12. Ideology and sport, recreation and leisure.
13. Sociology of sport, recreation and leisure; leisure and culture; industrial recreation; recreation in institutions (e.g. prisons); recreation and leisure and cultural attitudes; leisure education; leisure and recreation and social, cultural and community development; urban and rural recreation; leisure economics; leisure behaviour patterns; fun morality; work and leisure; self-actualization through recreation and leisure; leisure surveys; community needs survey; leisure, sports and recreation; and social activity and participation; work satisfaction; work planning; leisure and work ethic; organisation of work; social change and recreation and leisure; leisure values; affluence and leisure and recreation; social mobility and recreation and leisure; adaptation through leisure; mass society and leisure and recreation.

14. Recreation management; recreation planning; recreation and, urban and rural planning; land use, open space; land economics; land management; valuation; outdoor recreation; outdoor education; national parks, wilderness: maintenance, management etc; recreation and leisure and environment; ecology and outdoor recreation; land conservation; nature conservation; beaches, lakes, coastal areas and conservation; beaches, lakes, parks, etc. and social activity; pollution and sports recreation; water management; marine parks; outdoor recreation and environmental costs; litter and outdoor recreation; nature reserves, parks etc. utilization; mountain resorts - maintenance; recreation planning and resources allocation; range management, water pollution; resources allocation economics; noise pollution; mining and national parks; landscape classification.
15. Community arts and recreation and leisure; community arts and creativity; dance and creativity; dance and community awareness; folk dance, pantomime, leisure and arts; handicrafts; community arts and history; art galleries, museum.
16. Therapeutic recreation, exercise therapy.
17. Outdoor recreation and vandalism; outdoor recreation and legislation; public works - damage.
18. Leisure and recreational services; recreation, leisure and information services.
19. Tourism; tourism and regional development; tourism economic and cost benefit analyses; tourism sociological analysis, investment, marketing and social policies and support measures; tourism and attitudes of local people; holiday accommodation; holiday planning; second homes; holidaymaker preferences; surveys; picnic sites; cultural heritage and tourism.
20. Historic sites and heritage areas; maintenance, restoration etc.
21. Developments in library and information sciences relating to sport, recreation and leisure.

To identify various aspects of Australia's needs as specifically as they have been identified above is necessary to achieve a definition of the problem (needs). Without first adequately defining the problem no information storage and retrieval system (e.g. ERIC, SIRC, INFO RELEASE) can be designed which could claim to be based on careful research and would be entitled to a serious consideration.

The above list does not comprise a thesaurus nor is it a comprehensive list of subject headings. Yet, it is hoped that these categories identify all the planes of Australia's diverse information needs and consider that this exercise is necessary before any attempt can be made to define the boundaries of INFO RELEASE as a system.

5.7

INFO RELEASE: OPERATIONS

All the operations and activities of INFO RELEASE must be directed at achieving an efficient and prompt collection, organisation, retrieval and dispersal of information in the areas discussed under the heading of INFO RELEASE: SCOPE. To attain this objective it must perform the following functions:

5.7.1

DEVELOPMENT OF AN AUSTRALIAN DATA BASE IN RECREATION,
LEISURE & SPORT

The most serious problem lying in the way of achieving the outlined objective for INFO RELEASE is the inadequate coverage of Australian literature. To overcome this INFO RELEASE must develop a data base called RELEASE or REcreation, LEisure And Sport. The creation of a data base is an expensive exercise needing a great deal of research, experimentation and time.

Speaking of the construction of a thesaurus, Soergel¹⁴ says:

"A good thesaurus does not - as is sometimes assumed - emerge out of discussions by panels of subject experts meeting now and then".

This would be even truer of data bases: the construction and maintenance of a thesaurus is only one of the many complex aspects of developing a data base.

A detailed treatment of this topic is therefore far beyond the scope of this study. This is further prohibited by the fact that it is impossible to make specific system design recommendations without fully knowing the system environment.

However, it is possible to suggest a few general guidelines with regard to the creation of RELEASE data base. It is hoped that if these guidelines were followed then it would be possible to avoid mistakes made by some of the major data bases that started in the mid-60's and early-70's. These guidelines are as follows:

- (A) Coverage of Literature: RELEASE data base must cover the published and unpublished Australian literature in fields specified in the section where the scope of INFO RELEASE has been outlined.
- (B) Nature of Documents to be Covered: Besides indexing books, articles (including book reviews) in journals and major newspapers, this data base must also give coverage to reports. A greater emphasis on the coverage of report literature than has traditionally been given by major data bases is vital in view of the fact that most reports are commissioned by government departments and even though most are not confidential yet remain unpublished.

In addition to the print material, this data base must also cover non-print material e.g. tapes, films, video-cassettes etc.

- (C) Interaction with User Groups: The factors influencing the design of data bases have been more deeply studied in the late 70's than ever before.

It is only recently that attempts have been made to involve users in designing a new data base or modifying an existing one. This trend is growing. Pryor¹⁵ in his study of user likes and dislikes of NASA scientific and technical information system found that all researchers looked elsewhere for their information needs before trying the data base. Pryor's conclusions are representatives of many such studies all of which show that most data bases in the past have been established without adequate discussions with their potential users.¹⁶

This amongst other factors - has adversely affected the growth in usage and popularity of many bibliographic data bases. It is therefore very significant that discussions on all aspects of RELEASE data base design are held with its potential users during its various stages of development. Further, its users must also be helped to develop a greater understanding of cost effects of suggestions made by them.

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- (D) Exhaustivity of Coverage, Cost Benefit and Cost Effectiveness Analyses: It has been recently established that in the case of many major existing data bases - particularly the early established government or inter-government sponsored data bases ¹⁷ - the extension of coverage had been the prime motivation. While designing these systems, surprisingly little attention was paid to cost effectiveness (the cost necessary to achieve some desired performance level) and cost benefits (the value, preferably reduced to monetary terms of the benefit derived by the user of the service).

It is therefore very important that from the beginning adequate emphasis be given to these factors during the development and maintenance of RELEASE data base.

- (E) Avoiding Limitations of Existing Major Data Bases: Many major data bases (e.g. APAIS, ERIC etc) that became available in machine readable forms in the 60's and early-70's generally suffer from three limitations: (a) their computer versions have come into existence as by-products of their published versions; (b) they suffer from many of the limitations of manual indexing systems; (c) their system design continues to have all the limitations that were imposed by computer technology (both hardware and software - particularly the former) available at the time of their inception.

While developing RELEASE data base these limitations must be avoided.

- (F) Format of Release Data Base: All decisions with regard to the format of this data base must be left to those people who will be responsible for creating it. It has already been stressed that feed back from the users is to be sought at every stage. The only guidelines that would be appropriate to give here would be that each record must be abstracted and these abstracts must be available for browsing on-line; one of the data elements in format must be location (under this data element the names of other libraries holding that particular record must be mentioned); finally, the INFO RELEASE staff must keep in view the possibility that in the future an

organisation or consortium may want to process and re-format some or all of the contents of RELEASE data base to create a new data base (this is true of several data bases that have been created at the initiative of EEC or Unesco) or add to an existing one. It would be advisable for INFO RELEASE to adhere to ANSI Z39.2 standard (an international standard code prescribed for formatting data bases for distribution).

- (G) Input to Release Data Base: Input to this data base can be made in two ways: (a) on a co-operative basis i.e. besides INFO RELEASE staff, various state government departments of Youth, Sport and Recreation etc. are also allowed to make a direct input to it; (b) it is done solely by INFO RELEASE staff but various state government departments etc. are encouraged to bring it to their attention any document they wish to be included in the data base.

Option (A): Co-operative Input:
Advantages

The only advantage in favour of co-operative or decentralised indexing is that it has a potential for cost saving. The best examples of decentralised indexing are MEDLINE and ERIC. In the case of MEDLINE, Page¹⁸ has estimated that by following a policy of decentralised input the National Library of Medicine, Washington, U.S.A., was able to save \$400,000 annually.

Disadvantages

(1) Increased Indexing Inconsistency: In the same study referred to above Page has also shown that in the case of MEDLINE as well as several other international data bases, decentralised input tends to reduce the indexing consistency. Barbara Booth²⁰ has also demonstrated that decentralising of the ERIC clearing houses has resulted in the same problem.

(2) Decrease in Timeliness: It is important that a document be indexed as soon as possible after it has been published. Both Page and Booth have found that decentralised indexing leads to greater delays and thus decreases timely indexing of a document. (This loss in timeliness in the case of RELEASE would be far greater because the inputting libraries will have to take up this indexing and processing of documents in addition to their existing responsibilities).

(3) Difficulties in Communications: Page and Booth also found that management of decentralised systems is more difficult and dearer: the possible difficulties and costs incurred in communication are in direct proportion to the number of input centres.

(4) Increase in Training Expenditure: Decentralised input also leads to greater overhead expenditure in such areas as training and manuals preparation for the staff.

(5) Aptitude for Indexing: The staff at these inputting centres are bound to have varying aptitude for indexing or intellectual analysis of a document because at the time of their appointment the main consideration would be for their ability to run a departmental library and not indexing. This would adversely affect every aspect of RELEASE data base.

In my opinion these five factors more than offset any potential for small cost savings which co-operative input may offer. Besides these disadvantages, in this particular instance, co-operative inputting will have a number of other demerits. These are:

(6) Number of Input Centres: If co-operative input were to be encouraged then all the government departments (which comprise SCOR) will have to be allowed to make input. The cost incurred in training of a minimum of nine persons to make input to a data base of this size would be greatly disproportionate in relation to other costs related to this exercise. These initial training costs must be considered against the background that most departmental libraries suffer from a relatively high turnover of professional staff who have little background in the Information Sciences. Given this situation any possible cost savings would be easily outweighed by extra training costs alone.

(7) Loss in Comprehensiveness: Besides loss in timeliness and indexing consistency, this will also mean a loss in the comprehensiveness of coverage. The inputting libraries, even collectively will never be able to muster resources necessary for the achievement of this objective. This will leave serious gaps in the data base.

(8) Incapable of Evaluation: Each of these inputting centres (i.e. departmental libraries) will have its own priorities, responsibilities and environment. Each will also have staff and budgetary constraints unique to it. These would introduce so many variables to the system that it would be almost impossible to ever evaluate this system either for performance measures or cost effectiveness and cost benefit.

(9) Lack of Appropriate Administrative Control: This arrangement would create a situation where many outside organisations will influence the efficiency and functioning of INFO RELEASE yet it will have no control of these organisations either administratively or from the viewpoint of establishing their priorities.

(10) Adverse Effects on Document Delivery: Co-operative inputting will also adversely affect the document delivery service offered by INFO RELEASE since these documents will be scattered.

(11) Extra Burden on INFO RELEASE: Such an arrangement instead of in any way reducing the developmental or operational costs of INFO RELEASE will put extra burden on its resources because INFO RELEASE will have to develop and run training programs for these inputting centres; it will have to constantly monitor the quality of input from each place; and it will have to devise a system to ensure that a record is not indexed and entered more than once.

(12) Updating of Thesaurus: it will make updating and maintenance of the thesaurus far more difficult.

Option (B): Input by INFO RELEASE Staff

This is my favoured option. I suggest that input be solely made by the INFO RELEASE staff but various government departments must be encouraged to bring to the attention of the INFO RELEASE staff any document they wish to be included.

This option has none of the disadvantages of the first option. To do so would require neither extra staff nor funding. This policy would also enable users to easily identify the organisation to which they should express their satisfaction or dissatisfaction.

5.7.2 THESAURUS DEVELOPMENT OR VOCABULARY MANAGEMENT

Thesaurus construction or vocabulary management of an information retrieval system is a very tedious and time consuming task. In the light of developments in computer software and hardware technologies in the early-70's, many predictions were made that to improve the performance of such a system, vocabulary management would not be needed. However, a high level of publishing activity on the building, maintenance and revision of thesauri in recent years, clearly demonstrates that these predictions have not been borne out. There now seems to be a general feeling among information scientists that the contribution to improved system performance afforded by a controlled language (vocabulary management) is worth the effort. It would therefore be worthwhile for INFO RELEASE data base to manage its vocabulary by constructing a thesaurus.

It is only recently that efforts have been made to systemically study the problems associated with the construction, maintenance and evaluation of thesauri. It is outside the scope of this report to review this literature in detail. Yet a brief discussion is desirable because building and maintaining a thesaurus would be one of the major activities of INFO RELEASE.

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Most studies are on building a thesaurus from scratch. Soregel's book still remains the best publication on this topic.¹⁴ Only a few publications deal with thesaurus evaluation and revision. An important paper in this area is by Barbara Booth²⁰ which deals with the evaluation and revision of the 'Thesaurus of ERIC descriptors'.

The mistakes made during the construction and maintenance of the 'Thesaurus of ERIC descriptors' are typical of the errors generally made in constructing their thesauri by many major bibliographic data base systems designed in the mid 60's and early 70's.

To avoid these mistakes, the INFO RELEASE staff, while preparing RELEASE thesaurus, should follow the following general guidelines:

- (A) It should not be constructed on a non-systematic basis: it is more economical to start with a thorough thesaurus. This means that the INFO RELEASE must collect an adequate number of descriptors in the beginning.
- (B) The documents should not be permitted to determine their vocabulary to such an extent that it becomes "free indexing".
- (C) Display structures must be well developed.
- (D) Ambiguities in meaning but more seriously in the potential usage of closely related terms must be resolved right in the beginning.
- (E) Each descriptor - unless it is fully self-explanatory - must be provided with an adequate scope note.
- (F) As many descriptors should be provided with instruction notes as needed.
- (G) Every aspect of thesaurus construction should be well documented. This is necessary to ensure an appropriate continuity in the case of staff turn-over or a proper evaluation of the thesaurus at some future date.
- (H) Pre-coordinated terms (advanced descriptors) must be used with utmost caution: overlapping pre-coordinated terms confront indexers with difficult choices; at the same time the pre-coordination of concepts to a certain degree may be necessary to avoid too many "false drops" (or low hit rate).
- (I) Users should always be encouraged to submit suggestions for specific changes to existing descriptors or inclusion of new descriptors.

- (J) The thesaurus must be continually evaluated and updated.
- (K) To ensure proper evolution of the thesaurus the fate of each term must be permitted to be determined empirically.
- (L) The practice of using the same descriptors for a computer based information retrieval system as well as for preparing a printed index is not without problems: the two practices sometimes have conflicting requirements. (These problems must be studied in depth by the INFO RELEASE staff before embarking on the creation of RELEASE data base).
- (M) Before compiling a thesaurus it will be useful for the INFO RELEASE staff to be familiar with all existing thesauri, subject heading catalogues and indexing services that are relevant.

5.7.3 OTHER OPERATIONS OF INFO RELEASE:

PUBLICATION OF RELEASE ABSTRACTS:

It must convert its RELEASE data base to printed version.

ANNUAL REPORTS:

Besides monographs, audio-visual material and periodicals, it must collect annual reports and other publications of all the relevant government departments statutory bodies, and other organisations in Australia. These, however, need not be indexed.

PROSPECTUSES, EDUCATIONAL HANDBOOKS:

It must collect prospectuses, educational handbooks, calendars of the Australian and selected foreign institutions which offer trainings or courses in sport, recreation and leisure. These must be part of its reference collection and need not be indexed in its data base.

DIRECTORY OF RESEARCH PROJECTS:

It must produce - and continually revise - a comprehensive directory of the research projects being undertaken by various Australian tertiary and research institutions. This must be available on-line.

ON-LINE ACCESS:

It must join such bibliographic retrieval services as DIALOG, ORBIT, BRS etc. to be able to access other major data bases it must also join SIRLS.

ABSTRACTING AND INDEXING SERVICES:

INFO RELEASE must also selectively subscribe to those abstracting and indexing publications which are not yet available in machine-readable format. These would be useful bibliographic tools for researchers (particularly those interested in non-English speaking Europe) as much of the literature covered by these publications cannot be traced through North American, British and Australian data bases. These publications would also greatly help in finding articles for Australia's ethnic communities.

EURONET:

It should join EURONET when it becomes accessible to Australia through MIDAS (expected in mid-1981). This would give INFO RELEASE on-line access to many European data bases (e.g. Sportdokumentation (West Germany) is expected to be available through EURONET) and networks useful to it.

RELATIONSHIP WITH SIMILAR FOREIGN ORGANISATIONS:

It should develop a close working relationship with similar organisations in other English-speaking and non-English speaking countries, particularly Italy, Greece and Yugoslavia.

5.8

DOCUMENT SELECTION AND
ACQUISITION POLICIES

Because in some ways INFO RELEASE library will be a national reference library and also because its likely host will have responsibilities to its staff and students, some duplication, particularly of Australian monographs would be unavoidable.

But the extra cost incurred would be many times less than the savings made with regard to the shared acquisition of journals, non-print material etc.

To be able to perform its functions and use the resources of its host institution's library in the most efficient way, INFO RELEASE's document selection and acquisition policies must be developed along the following lines:

- (A) It must pursue its policy of selection and acquisition of all kinds of documents (e.g. books, reports, journals, newspapers, non-print material etc) in close co-ordination with its host's library.

With regard to providing document back up service it should aim at being able to meet 80% - 85% requests from its own and its host's resources. This means that its subscription to those foreign periodicals which are outside the scope or resources of its host must be determined by the degree to which they would meet or improve document supply requests. A good criterion to follow here would be Bradford - Zipf distribution studies. (For a brief discussion of Bradford - Zipf distribution please see "Appendix C").

- (B) It should acquire all the Australian monographs (e.g. books, reports etc) which would be indexed in RELEASE data base irrespective of their acquisition by its host.
- (C) It must subscribe to all the Australian periodicals which fall within its scope and are not being subscribed to by its host.
- (D) It must not acquire any non-print material that has been or would be acquired by its host.
- (E) It must acquire all Australian non-print material which is within its scope but outside the scope of its host.

5.9

I N F O R E L E A S E : S E R V I C E S

RELEASE DATA BASE: It must mount the RELEASE data base on A.C.I. computer and make it available to all AUSINET members.

RELEASE ABSTRACTS: It must publish a monthly bibliographic publication called RELEASE Abstracts. This must have all the information contained in RELEASE data base. This is necessary so that those organisations (e.g. Sport and Community organisations, public libraries) which are not AUSINET members can benefit from its services. This publication should also be available to individual subscribers. This must be sold at no-profit - no-loss basis

OCCASIONAL BIBLIOGRAPHIES: By conducting searches on its own and other Australian and foreign data bases, it should regularly prepare and publish bibliographies on broad themes (e.g. urban planning and recreation; recreation for the handicapped or the elderly etc.) which must contain references to selected articles published in a specified period. These publications must be gratis and available to all.

DOCUMENT DELIVERY FOR AUSTRALIAN USERS: At the request of any member of the public or an institution, it should supply a copy of the text of any reference. It should aim at supplying these photocopies, microfiches etc. within 24-48 hours of receiving a request. For those requests which cannot be met by its own resources, it should acquire them either on inter-library loan or it should place orders with document delivery services operating abroad. Many of these can be instantly contacted by using Dialog's 'Dial Order' service or ORBIT's electronic maildrop system. Adequate charges must be made for this service.

DOCUMENT DELIVERY FOR FOREIGNERS: It should also make its document delivery services available on an international commercial basis through Dialog and ORBIT's services. This would also give INFO RELEASE a wide international exposure. Adequate charges must be made for this service.

LITERATURE SEARCHES: It must offer to conduct literature searches on its own and other relevant data bases on request. If a request is for an exhaustive bibliography or would require searching on several data bases then charges must be made for this service.

NEWSLETTER: It must occasionally publish a newsletter through which it should try to inform its clients of conferences, visiting scholars, and of its own plans and activities. This newsletter should also contain information about audio-visual material newly acquired by INFO RELEASE.

REFERENCE SERVICE: It must offer a general reference service, e.g. addresses of sport organisations, details of certain courses offered in a university, biographical details of a sportsman, locations of books outside its premises etc.

TRANSLATION: It must organise for translation of foreign language material. It should also maintain and continually revise a register of people situated in various Australian cities who will perform this service. This register would be available for distribution.

NETWORK DEVELOPMENT: It must encourage co-operation between those institutions which have good collections in sport, recreation and leisure and help to advertise their existence.

INTER-ORGANISATIONAL LOAN: It will loan out documents which cannot be supplied as photocopies or in the form of a microfiche etc. This service should be confined to organisations only.

ON-LINE CATALOGUING: It should actively participate and encourage the participation of others in the on-line cataloguing program of the National Library of Australia. This would not only enhance the worth of National Library's program and lend it another dimension, but it would for all purposes turn National Library's on-line cataloguing service into an on-line union catalogue of monographs in sport, recreation and leisure. This would enable INFO RELEASE's collection to be searched by all the libraries participating in National Library's program and thus also help to expose INFO RELEASE on a national basis.

ORGANISATION OF CONFERENCES: It should occasionally try to organise conferences and seminars for people (particularly librarians and information scientists) active in the field of sport, recreation and leisure.

RESEARCH ACTIVITIES: It would be able to inform - on request - of various research projects in progress in various universities and tertiary institutions in Australia. This service must be free.

FACILITIES FOR VISITORS: For its visitors it would offer facilities similar to those available in the reading room of an Australian university. It would also offer facilities for people to watch a film or a video-cassette.

UNION LIST OF SERIALS: It must undertake to produce - and continually revise - a union list of serials in the field of sport, recreation and leisure held in Australian libraries. At some stage it must consider making this union list available on-line.

INTERNATIONAL CO-OPERATION: It should promote international co-operation in the flow and accessibility of information by

encouraging such projects as: the development of a multi-lingual thesaurus; the development of software leading to convertibility between and among separate vocabularies; the standardization of data elements and formats of various data bases etc.

FEEDBACK TO GOVERNMENT DEPARTMENTS: It must continually analyse its users' needs for any new trends that may be emerging. This would prevent INFO RELEASE from developing its perceptions of users' needs in isolation.

5.10

FUNDING: ARRANGEMENT
AND REQUIREMENTS

Before seeking a government grant for the development and operations of INFO RELEASE, every attempt must be made to seek full or partial monetary support from those business organisations whose earnings heavily depend upon the promotion and encouragement of sporting and recreation activities in community (e.g. Ansett, Kerry Packer and Fairfax media groups); sport equipment manufacturers or from those organisations which sponsor various sporting and recreation events (e.g. Bond Corporation, McDonald's Hamburger etc.)

If all attempts to seek private sponsorship fail, then it is recommended that INFO RELEASE be funded by the Commonwealth Government.

This would ascertain that INFO RELEASE acts at a truly national level. To try and arrive at a formula of joint funding by the Commonwealth and State Governments would prove very difficult and most likely unsatisfactory since the degree of demands made by each state would vary from year to year.

Such funding would also be in accordance with that of such institutions as Sports Institute. INFO RELEASE must also be asked to produce an annual report every year; and this must be available to public.

The following figures produced to show estimated annual expenditure for the first three years of the existence of INFO RELEASE do not take into consideration such expenses as rent for the office space,

service charges (e.g. electricity, cleaning expenses) etc. because these vary considerably even in the same city. Further, it is presumed that such facilities would be offered by the host institution.

To offer all its services INFO RELEASE will need a grant of \$200,700.00 for the first year of its existence and \$187,200.00 for each of the two subsequent years. These figures have been arrived at after deducting INFO RELEASE's possible estimated income.

Funding requirements for the first year

This grant will be needed for the following items. (All these figures including the salaries - are based on November, 1980 dollars):

STAFF

INFO RELEASE Manager (A9 or E1 level)	\$ 22000.00
Documentalist (A7 level)	\$ 16800.00
Reference Librarian (A7 level)	\$ 16800.00
Library Officer	\$ 12000.00
Keyboard Operator (A3 level)	\$ 10500.00
Support Staff (A3 level)	\$ 10500.00
Support Staff (A1 level)	\$ 9400.00
Payroll Tax, Superannuation etc.	\$ 7000.00
TOTAL	<u>\$105000.00</u>

EQUIPMENT

Office and Library furniture	\$10000.00
Video-Equipment	\$ 1500.00
Tape Recorders (2 units)	\$ 300.00
IBM Typewriter	\$ 1000.00
Photocopier	\$ 5000.00
Teletype Desk Top Terminal Printer	\$ 1700.00
IBM 3270 Terminal	\$ 5000.00
Acoustic Coupler	\$ 600.00
Film Projector	\$ 1100.00
Microfiche Reader	<u>\$ 400.00</u>
TOTAL	<u>\$26600.00</u>

RESOURCES

Periodicals (800)	\$24000.00
Monographs, Reports	\$10000.00
Non-print Material	\$ 5000.00
Newspapers (of Capital Cities)	\$ 500.00
Dedicated Lease Line, rent of	\$ 1600.00
On-line literature Search	\$15000.00
Printing of monthly RELEASE abstracts	<u>\$ 1000.00</u>
	<u>TOTAL</u> <u>\$57100.00</u>

OTHER EXPENSES

Stationery, Postage, Telecommunications	\$ 7000.00
Advertising and Other Publications	\$ 3000.00
Travel (promotion tours, conferences etc)	\$ 5000.00
Miscellaneous	<u>\$ 2000.00</u>
	<u>TOTAL</u> <u>\$17000.00</u>

GRAND TOTAL \$205,700.00

Expected income during the first year	\$ 5,000.00
Total funding required for the first year	\$200,700.00

Most figures given above are self-explanatory. Some figures, however, need to be commented upon. The figures for periodicals, monographs and reports include the funds needed to acquire those publications (both foreign and Australian) which would not be indexed in RELEASE data base nor would be available in the host institution's library but would be needed for document back up service. The on-line literature search costs include the data base creation costs too.

Funding for the Next Two Years

It is not possible to project its funding requirements for more than three years. Roughly speaking, its annual expenditure for each of the two subsequent years would be the same (i.e. \$205,700.00 annually) provided usual adjustments (resulting from wage increases, inflation, increase in stationery, printing costs etc) are made to produce revised figures.

The money required for the purchase of equipment during the first year will be needed to buy some more equipment (e.g. cyclostyle, microfiche reader-printer, microfiche duplicator, furniture, shelves etc); to strengthen its resources (e.g. purchase of the back issues of selected journals etc); and to cover additional expenditures due to increased usage of its resources, (e.g. increase in on-line searching).

However, INFO RELEASE's annual income is likely to go up during these years. It is estimated that its income for each of the two years would be about \$20,000.00.

Grand Total for each of the two subsequent years	\$ 205,700.00
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Expected income for each of the subsequent two years.	\$ 18,500.00
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Total funding required for each of the two subsequent years.	\$ 187,200.00
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5.11

E A R N I N G S

It is very difficult to make projections of its earnings at this stage. In fact it would not be possible to extrapolate its earnings until INFO RELEASE has become well established and some statistics are available on its users.

However, the above figures for estimated annual income of INFO RELEASE have been arrived at by presuming that in this regard the experience of such organisations as SIRC or SIRLS is a valid criterion for INFO RELEASE. These earnings may go up significantly if it were available as a document supplier for Dialog's 'Dial Order' users and for ORBIT's electronic mail drop system users.

5.12

C O N C L U S I O N

INFO RELEASE meets all the criteria that have been set out and identified as necessary for any information service operating in this area. It will meet all of Australia's information requirements in the field of sport, recreation and leisure in the most cost effective way.

5.13

R E C O M M E N D A T I O N

ESTABLISHMENT OF INFO RELEASE

Immediate steps need to be taken at a national level in all aspects of collection, organisation, storage, retrieval and dissemination of information in the field of sport, recreation and leisure. The only way to meet these needs satisfactorily within a realistic budget is to establish the proposed information service, INFO RELEASE. The latter must be established as soon as possible within the guidelines enumerated in this report.

APPENDICES

Appendix A

Leisure Studies Data Bank

Appendix B

Archive and Museum of Games

Appendix C

Bradford - Zipf Distribution

APPENDIX A

LEISURE STUDIES DATA BANK

It is a statistical data base on leisure behaviour patterns. It is produced and maintained by the University of Waterloo, Canada; and is mounted on the same computer as SIRLS. My enquiries have revealed that it would be possible to access it on-line and also to make on-line input to this data bank from Australia. However, the lack of time has not permitted me to properly evaluate this data bank.

I suggest that this question be closely examined by INFO RELEASE manager with an open mind. If this data bank is found to be useful to Australia then necessary steps must be taken. If a new data base needs to be developed, whose software would offer greater manipulation of data than that of Leisure Studies data bank then that course must be followed.

APPENDIX B

ARCHIVE AND MUSEUM OF GAMES

Again it is not possible for me to comment on this issue: it warrants another study of at least the same magnitude as the present study. Nevertheless, I would like to identify some questions which any such study must attempt to answer. These are:

- A) Is such a museum needed? Have the National Library of Australia and various state libraries and museums been paying adequate attention to this area?
- B) If it is to be established what should be its scope?
- C) To what extent should it concentrate on telling Australia's cultural history - particularly its colonial history - through games?
- D) Should it concentrate on games that have been (or are) more familiar in rural Australia (the Australian outback)?
- E) To what extent should it concentrate on Aboriginal games and pastime activities?
- F) To what extent should it concentrate on collecting books, pamphlets, old issues of magazines with useful illustrations or some other relevant information?
- G) With regard to the collection of graphics and literature, what have National library and various state libraries been doing in the past and what are their future plans?
- H) Would it be better to develop it both as a tourist attraction, as well as something of interest to the academic communities?
- I) Presuming its potential for tourist attraction would it not be appropriate for one of those states or towns who rely on tourist dollar more than others to take initiative in this direction?

- J) Given the existence of so many museums and archives, how often would a situation arise where various government institutions would outbid one another to purchase an item from a private collector?
- K) To what extent would the existing libraries and museums be prepared to strengthen it by donating items from their collections?
- L) Would it be appropriate to take some initiative in this direction as part of Australia's bicentenary celebrations?

If and when a decision has been made to establish it, this author is of the opinion that INFO RELEASE or any other organisation must co-operate to strengthen it as much as possible.

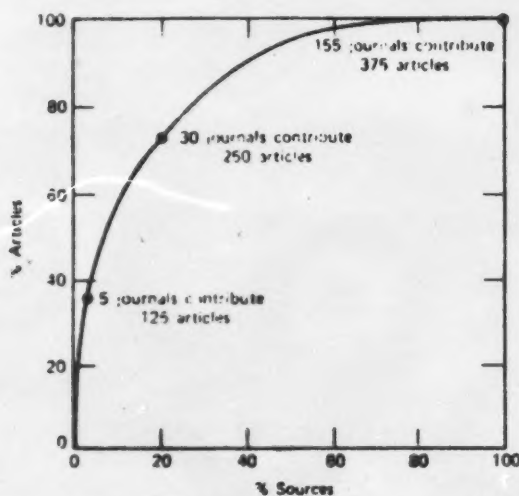
APPENDIX C

BRADFORD - ZIPF DISTRIBUTION

Two of the most important developments in the information service arena with regard to cost effectiveness analysis are the law of obsolescence and the "empirical hyperbolic distribution" propounded by Bradford in his law of scatter and the principle of least effort as enunciated by Zipf ²².

The Bradford's law of scatter has been greatly refined now and can be successfully applied in determining the productivity of a journal in a given area, the effectiveness of a journal circulation system or in developing models of efficient journals selection, and acquisition policies.

The Bradford law explains the distribution of journal articles over their sources (i.e. periodicals in which they are published). According to this law if a comprehensive literature search is conducted on a given topic, covering a specified period of time, it will be found that the literature is scattered over a very large number of journals. When the sources (i.e. journals) are arranged in a descending order of productivity i.e. the journal in which maximum number of relevant articles were published is placed at the top of the list and the journal yielding the minimum number of relevant articles at the bottom, then it is possible to divide this list into a number of segments in such a way that the journals comprising each segment collectively yield approximately the same number of articles. A comparison of these segments will reveal that the first or top segments contains a very small number of highly productive journals and the last (or bottom) segment



Bradford distribution of 375 articles published in 155 journals.

comprises a very large number of journals, each yielding very few articles. These segments thus identified have a frequency ration which can be expressed by the following formula:

$$X : Y : Y^2 : Y^3 \dots\dots\dots Y^n$$

Where X represents the number of journals in the first zone (i.e. top segment) and Y is the multiplier.

Suppose that the print-out of a literature search on a given topic contains 375 articles scattered over 155 journals. If these journals are arranged in a descending order of productivity and the resulting list is divided into 3 zones (segments) each yielding approximately 125 articles then the first segment will be found to contain 5 journals; the middle segment will comprise 25 (i.e. 5×5) journals, and the bottom segment will contain 125 (i.e. 5×5^2) journals.

Bradford - Zipf is thus a hyperbolic distribution. When plotted graphically it results in a curve as shown in the figure below.

In recent years the Bradford - Zipf distribution has been used to develop cost-effective models of journal selection, acquisition and circulation policies.

REFERENCE AND FOOTNOTES

1. BLOOMFIELD, J. (1973) The role, scope and development of recreation in Australia. Canberra, Commonwealth of Australia.
2. DEPARTMENT OF TOURISM AND RECREATION (1975) Report of the Australian Sports Institute Study Group. Canberra, Commonwealth of Australia.
3. BATH UNIVERSITY LIBRARY (1976) Design of Information Systems in the Social Sciences: coverage, overlap and content. Bath, England: Bath University, The Library, (Research Reports, Series A, No. 5 BLR & D Report No. 5290).
4. GUY, R.F. (1973) A study of the periodical references on the topic 'sociology of leisure' cited in two secondary sources, International Bibliography of Sociology and Sociological Abstracts. Belfast, National Documentation Centre for Sport, Physical Education and Recreation.
5. In my view the problem of not knowing the entire contents of a data base is fully nullified by the fact that the queries used as test cases were real queries (i.e. it was not known in advance what documents would be retrieved on a given topic.)
6. These needs have been discussed in detail on pages 48 - 50 of this report.
7. None of these features is, however, original or unique to AUSIRC. These features can be observed in a large number of existing resource centres, or information centres or services.
8. The term document is used here in its widest sense to include both print and non-print material.
9. Although the source of this figure is not stated in Footscray's proposal this is the number of journals listed under the "Sports and Games" section of Ulrich's International Periodicals Directory, 17th edition, 1977-78 which is included in their proposal.
10. The present author conducted his survey with the help of the following bibliographic tools:

- a) Current Australian Serials. 9th edition
 - b) Physical Education, Health and Recreation Serials in Australian Libraries: A Union List. 2nd edition. Rusden State College.
 - c) Scientific Serials in Australian Libraries: A union list. C.S.I.R.O.
 - d) Serials in Australian Libraries: Social Sciences and Humanities, National Library of Australia.
11. See AUSIRC page 5
 12. These figures are based on 1980 costs
 13. See AUSIRC page 14
 14. Soergel, Dagobert (1974) Indexing language and Thesaurus construction and maintenance. Los Angeles: Melville (John Wiley)
 15. PRYOR, H.E. (1975) An evaluation of the NASA Scientific and Technical Information System. Special Libraries 66 (11) 515-519
 16. A useful bibliography and a brief commentary on such studies have been provided by Stern, B.T. (1977) "Evaluation and Design of Bibliographic Data Bases". Annual Review Information Science and Technology 12:3-30
 17. This is true of such data bases as MEDLARS, IRRD (International Road Research Documentation System), TITUS (Textile Information Treatment Users' Service), INIS (International Nuclear Information Service) etc. For details see: PAGE, J.R.U. (1976) Co-operative Information Systems: A Case Study, Luxemborg City: Commission of European Economic Communities.
- As far as I can determine no similar evaluations have been done on major Australian data bases. But most likely it would be found to be true of major Australian data bases because most of them have been developed after the system design of those international data bases that have been found short on cost benefit and cost effectiveness
18. PAGE, J.R.U. (1976) Co-operative Information Systems: A Case Study. Luxemborg City: Commission of European Economic Communities

19. This saving must be considered in the light of the fact that more than a quarter of a million records are added annually to MEDLINE. Of these approximately 10% - 15% are indexed and inputted from overseas centres.
20. BOOTH, Barbara (1979) A "New" Eric Thesaurus, Five Tunes for searching. On-line 3(3):20-29
21. It is estimated that this data base would grow at the rate of 2000-2200 records per year.
22. ZIPF, G.K. (1949) Human behaviour and the principle of least effort. Cambridge, Mass: Addison - Wesley.

GLOSSARY

CONTROLLED VOCABULARY: The vocabulary of an indexing system in which there is synonym control and some display of term-term relations.

DATA BASE: For the purposes of this report a data base is defined as a bibliographic reference file (with or without abstracts) comprising numerous self-contained unique units called records. Each record refers to a particular document (article, book, film, cassette, etc.). These records can be manipulated to obtain a variety of products (i.e. bibliographies) for a variety of purposes (i.e. on different topics or subject areas) e.g. Sports and Recreation Index, Australian Public Affairs Information Service etc.

DESCRIPTOR: A code term used to describe the intellectual content of a document.

DOCUMENT: A piece of recorded communication in any form (book, journal article, film, etc.) and in any medium (visual, auditory, etc).

FREE TEXT SEARCHING: Searching all or any fields or paragraphs in records in a machine readable file, including any words in an abstract.

INDEX TERM: A term in an indexing vocabulary. Also called a descriptor.

INDEXING: Labelling classes of document at any bibliographic level, or, as in book indexing, labelling statements in documents.

INDEXING VOCABULARY: A list of code terms and access terms (descriptors etc) used in an indexing system.

NETWORK: Two or more organisations engaged in information exchange through communications for some functional purpose on a formal basis.

OFF-LINE: Not in direct communication with a computer's central processor.

ON-LINE: In direct communication with a computer's central processor.

PERIODICAL: A serial issued regularly and more than once each year.

POST-COORDINATION: Co-ordination of terms at the point of search.

PRECISION: The ability of an information retrieval system to hold back unwanted documents.

PRE-COORDINATION: Co-ordination of descriptors at the point of indexing to create multi-word or bound phrase descriptors.

RANKING: The RANK command on some computer based bibliographic retrieval services activates a subset of program commands which enables a computer to automatically compare the documents retrieved for their degree of relevance. RANKING thus improves precision. For those services whose query language does not permit RANKING, the same result can be achieved usually by restricting the search to descriptor field.

RECALL: The ability of a data base or information retrieval system to produce relevant documents on request.

RELEVANCE: The extent to which a retrieved document meets the needs of the person for whom it was retrieved.

THESAURUS: The vocabulary of an indexing system, showing synonym control and term-term relations.

VOCABULARY: The descriptors or index terms used in an indexing system.

VOCABULARY CONTROL: Proceeding from labelling of classes of documents to identification of code terms and access terms, to synonym and homograph control and to establishment and display of term-term relations.